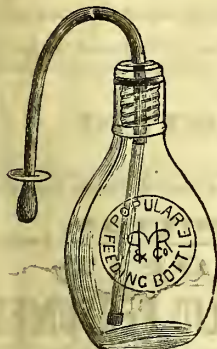


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GREEN, Screw Glass Stoppers.
White fittings, 3/ per dozen,
in box. Each boxed, 3/6
per dozen.
Black fittings, 3/3 per dozen,
in box. Each boxed, 3/9
per dozen.
The same in 1/ quality, 4/9
and 5/3 per dozen.
With Boxwood Tops, 2/4 to
3/1 per dozen.
White Glass Bottles, 2d. per
dozen extra.



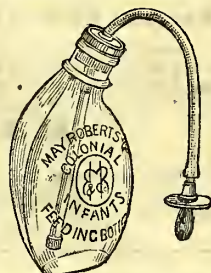
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WHITE, Screw Glass Stoppers.
Each in a box.
White fittings, 5/6; Black, 6/ per dozen.



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in box. Each boxed, 3/9
per dozen.
The same in 1/ quality, 4/9
and 5/3 per dozen.
With Boxwood Tops, 2/4 to
3/1 per dozen.
White Glass Bottles, 2d. per
dozen extra.

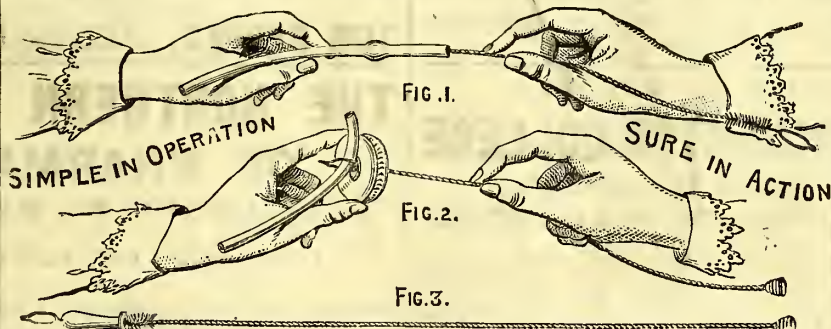
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is again
coming
into use,
many
doctors
preferring
it. We
have all
the shapes
& supply
them
fitted and
unfitted.
Thus the
kind as

shown in figure, best quality,
3 sizes, assorted, are 3/ per
dozen bottles; fitted with
black test and boxwood-top
cork, with brush complete,
in box, 8/6 per dozen.



PERFECT TUBE CLEANER.

There is nothing to beat this. It is perfect from the sanitary point of view. Use as shown above. Price 8/ per gross.

FIG. 1.

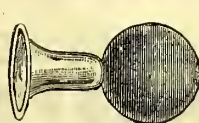


FIG. 2.



BREAST GLASS, as Fig 1, india-rubber and glass mounts, 12/ per dozen.

"

"

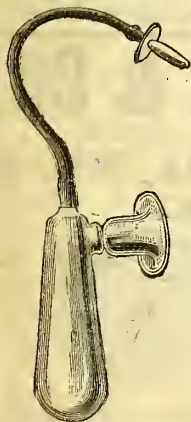
Fig. 2,

"

"

15/

"



BREAST EXHAUSTER.
white fittings, 5/9 per dozen;
black fittings, 6/3 per dozen.

FITTINGS.

INDIA-RUBBER TUBING.

White, Brown, and
Black, 3d. to 4d.
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GLASS TUBES.

10d. per gross.

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All sizes and shapes. White,
Brown, and Black, put up in
1-dozen boxes.

Smallest size, White 5d.,
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Other sizes in proportion.

Complete Fittings for all
kinds of Bottles. Also
Spare Bottles in any
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bottles to original
crates.

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6 sent in, 5 passed, viz.—

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Mr. J. A. RILEY, Seaforth.	Mr. W. LATHAM, Crewe.
Mr. W. WALKER, Leicester.	

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" H. E. COCKER.	" T. E. FURNESS.
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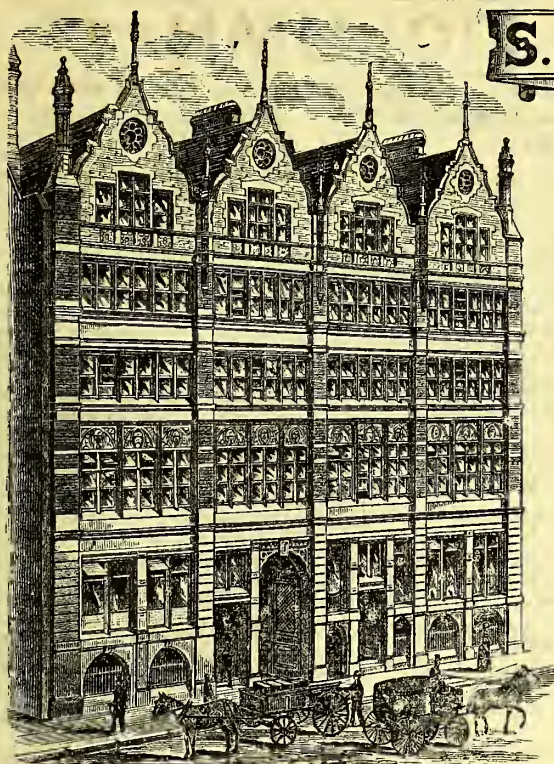


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Advertisements in this department must be paid for in advance. From this rule no deviation can be made. Insertions are charged at the rate of 1d. per word, provided the advertiser attaches his name and address, for each word of which he must also pay at the same rate; or if he pays 1d. per word, his name and address will be registered and a figure attached to his advertisement. All correspondence referring to that figure must be addressed to "The Publisher of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.O.," and the figure must be distinctly endorsed upon the envelope. Letters will then be forwarded to their proper destination. A price is counted as one word, as e.g., £1 10s. 6d.

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12 lbs. acid. carbolic, P.B.; 2 lbs. ferri quinaia citrat.; 6 lbs. potass. iodid.; 4 lbs. iodoform; 24 oz. chloral hydrat.; 2 lbs. extract. sarzæ liquid.; 8 oz. inject. morph. hypoderm.; 1 oz. cocaine hydroch.; 2 lbs. lin. iod.; 2 oz. ol. cinnam. ver.; 2 oz. Boudall's pepsine; 8 oz. morphia acetat.; 3 oz. (original) James's fever powder; quality guaranteed; 20 per cent. London list, or exchange for Beecham's, Seigel's, Scott's, Powell's, & Co. Fower, Portsea.

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Reliable recipes, 6d. each; full set of 130 neatly copied in book, 7s. 6d.; send for list. "Chemist," Edwards, Wye, Kent.

How to make concatenated aromatic waters, miscible with water, at half-price; formula, 1s. 6d. F. Horniblow, Sidbury, Worcester.

Mixture for Tic and Toothache, never fails, has proved the only cure in hundreds of cases; Indigestion Specific, the experience of years has shown its value; 2s. 6d. each recipe, nothing in the market to equal them. W. Arthur, 99 Old Road, Blackley, Manchester.

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Now ready, post free, Brooks's Latest List of 50 new recipes. Following are extracted:—Bay Rum Brilliantine, inseparable, brilliant, refreshing, growth-increasing; Anti-Drink Pills, radical cure for dipsomania, create distaste for spirits, strengthen system, tone the nerves; Headache Powders, give immediate relief without the danger of antipyrin; Skin Pills, cure blotches, pimples, spots, boils, and cutaneous eruptions, neither purgative nor dangerous; Sanitary Furniture Cream, produces brilliant, lasting, lustrous polish, cheap; Wild Flower, delicious blend of enchanting flower odours, much liked. Recipes, 3 for 1s. 6d., 6 for 2s. 8d., with directions. Latest Specials, 2s. 6d. each, free:—Aurean Fluid, or Golden Gloss, imparts to the hair an auriferous bloom, warranted equal to any, can be sold at moderate price and pay well; Dr. Carter's Diabetes Remedy, thoroughly reliable, not a quack guaranteed cure, but an honest preparation, sure to make its way, been sold for years under another name. Tom Brooks, Chemist, Hornsey, London, N.

Literature.

Offer for *The Pharmaceutical Journal* posted on Saturday morning. Kuott, Chemist, Bolton. Quain's "Dictionary of Medicine," in 2 vols.; well bound, quite new, cost 37s.; what offers? or exchange tooth forceps. Dale, Chemist, Gorton, Manchester.

Pharmaceutical Journal from July, 1882, to December 1886, complete. *Chemist and Druggist* 1833 and 1890, several numbers missing; what cash offers? Mr. E. J. Kittle, 10 Queen Street, Horsham, Sussex.

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Moonseed bitters, 2s. 9d. size 22s., 4s. 6d. size 37s. 6d. per dozen; clean, and done up in new wrapper; cash with order, or deposit at the office of this paper. G. Steer, 290 Bute Street, Cardiff.

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Wrought-iron standards, with arms for carboys, weighing over 1 cwt., 20s.; pair speciejars, with covers, 24in., require repainting, 20s.; 8-inch marbled china letters for chemist and druggist, 20s.; last seven years' *Pharmaceutical Journal*; last year *Chemist and Druggist*; offers. Hartley, Leek.

Counter-cases as Maw's A 15, second-hand, 3 ft. 6 in. long, 50s.; 2 ft. 6 in. 40s.; 6 ft. long by 2 ft. wide, 12 in. high, new case, 7l. 10s.; desk and case, new, 50s. Treble Brothers, 23 Canal Road, Hoxton, London.

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16l. worth Herbert and Godfrey's spectacles; what offers? Coleman, Chemist, Wolverhampton.

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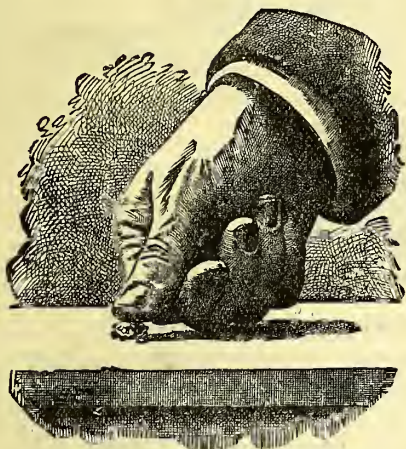
Old case clock works, eight-day striker, in or out of order, or with case, if cheap. Price, &c., 75 Johnston Street, Blackburn.

Shop fittings.—12-foot run drawers, with shelving above, and dispensing screen; lowest cash price. Holmes, Chemist, Bentham.

Nest of drawers about 9 ft. long and 3 ft. high; also counter about 9 ft. long, with drawers. Send particulars and lowest price to Williams, Chemist, Conway.

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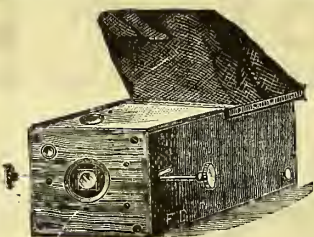
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Fig. 13.

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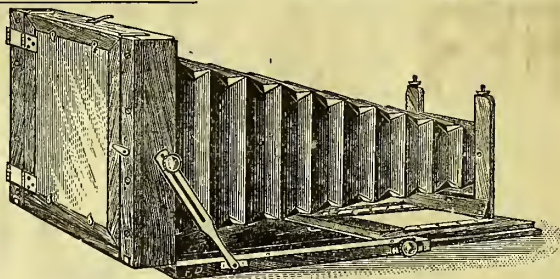


Fig. 14.

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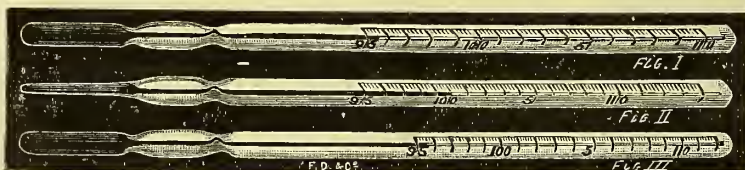


Fig. 16.

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We can boast of a success in our **"W. J. B. SPECIALITY ESSENCE OF LEMON"** such as we did not dare to anticipate, our sales during the last season having far exceeded our calculations. But the point upon which we are specially elated is, consumers are more and more becoming fully acquainted with its superiority, and those who have hitherto purchased the lower qualities from us and others, after due examination, are one by one being convinced of its advantages and converted to its use. What then are its great qualifications? Simply that it is made carefully and well, from **SELECTED FRUIT ONLY AND ABSOLUTELY PURE.** Although somewhat higher in price than the qualities usually called "the best," its greater strength makes it cheaper in use, imparting, at the same time, a far superior flavour.

With regard to the ordinary commercial qualities, we claim also to be exceptionally placed; being on the spot we are enabled to take advantage of favourable markets.

Finally, we wish to mention a few words on the prospect of the crop, which, we regret, does not seem at all brilliant at present. Our friends will no doubt have seen, by our various market reports, the crop of lemons is now ascertained to be unusually limited, and the quality of the fruit being exceptionally good, a larger quantity than usual will be used for packing. Therefore, in the absence of "refuse lemons," from which the ordinary Essence is made, both Essences and Lemon Juice must be dearer as the season advances; anything like a repetition of last year's figures is out of the question.

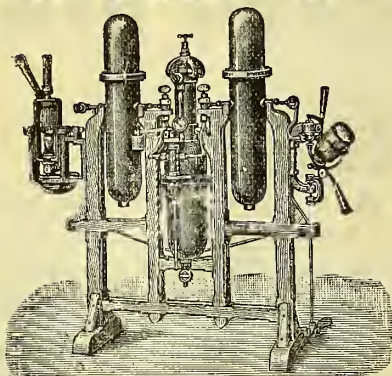
We have received overland by Grande Vitesse a small copper, the first manufactured this season at our works, Villaggio Gazzi, Messina, and the exceptional quality of the fruit this year will enable us to offer a **PERFECT ARTICLE.**

One of our partners is in Messina as usual, superintending the manufacture.

W. J. BUSH & CO.

ARTILLERY LANE, LONDON.

A. LOZÉ & CO., LD., 281 WEST DERBY ROAD, LIVERPOOL.



INDISPENSABLE TO CHEMISTS.
THE ONLY PRACTICAL SODA WATER MACHINE.
Self-working by Chemical Action. No Skilled Labour.
NOT LIABLE TO GET OUT OF ORDER OR NEED REPAIRS.
Produces the Purest Aërated Water made.

Machines, in two sizes, at 25 guineas and 30 guineas. All complete. With the smaller a lad can make easily in ten hours twenty dozen Syphons or 100 dozen Bottles; with the larger, thirty dozen Syphons or 175 dozen bottles.

INDIA.—Machines on view at Messrs. Bertie-Smith & Co's, Bombay.

COUNTY LABORATORY, 30 BROWNLOW STREET, LIVERPOOL, October, 1889.
I have examined during the present year the Machines for making Aërated Waters invented by Mr. Lozé, and I have formed a very high opinion of them. No lead is found in any part which comes in contact with the water, and the process is one which produces absolutely pure Carbonic Gas. Accordingly I find that the effervescing water produced is free from every injurious metal or contamination, and has a better flavour than that produced in the ordinary way.
J. CAMPBELL BROWN, D.Sc.

CHEMICAL LABORATORY, 20 ALBERT GATE, MANCHESTER, 21st August, 1889.
GENTLEMEN,—At your request I have visited the works of Messrs. A. Lozé & Co., of Prescott Street and Tuebrook, Liverpool. I have inspected his patented Apparatus for producing Aërated Waters, and have analysed the Aërated drinks manufactured. The results of analysis quite justified the inferences which were drawn from a knowledge of the materials used. Thus, instead of using ordinary whitening (as the source of carbonic acid gas), which gives off small quantities of offensive gases when acted upon with acid, Mr. Lozé uses one of the pure soluble bicarbonates of either Potash or Soda; the use of this salt enables the apparatus to be much simplified in form, as no gas washer is required, but the carbonic acid gas may be led at once into the liquid in the Saturating Cylinders. The Aërated drinks produced are of very high quality, both as to purity and as to Aëration, and the apparatus possesses the merit of extreme simplicity and efficiency.—Faithfully yours,
O. ESTCOURT, F.I.C., F.I.

Messrs. A. LOZÉ & CO., LIMITED.
Dear Mr. Lozé,—I am pleased to inform you that I have been able to work the Machine sold to me by you without previous knowledge. With your patent Turnover I can bottle Patent Stoppers at the rate of two dozen per minute. Syphons and Corked Bottles I can fill much quicker than what you advertise the Machine to do.
The Aërated Waters produced have been sampled by a number of gentlemen, and pronounced by them to be of a most excellent quality.—Wishing you every success I remain, yours truly.
ROBT. J. GOW, F.O.S.
DITTON, 10th April, 1890.

SYPHONS & SELTZOGENES PORCELAIN LINED HEADS.

NON-METALLIC.

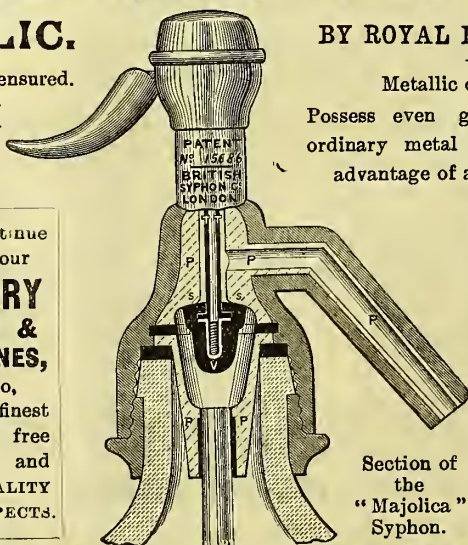
Absolute Purity of the Water ensured.
Suitable for all kinds of beverages, sweetened, medicinal, or otherwise. Each Syphon and Seltzogene guaranteed.

BY ROYAL LETTERS PATENT, No. 15686.

Metallic contamination utterly impossible.
Possess even greater strength and durability than ordinary metal heads, combined with the immense advantage of always being clean and non-oxidisable.



We still continue to warrant our
ORDINARY SYPHONS & SELTZOGENES,
as hitherto, to be of the finest tin, entirely free from lead, and FIRST QUALITY IN ALL RESPECTS.



Section of the "Majolica" Syphon.

WRITE FOR SAMPLE AND SEE OPINION OF THE ENTIRE TRADE PRESS.

Prices and Particulars on application to the Patentees and Manufacturers.



THE BRITISH SYPHON MANUFACTURING CO.
EUGSTER & KOERTGEN, PROPRIETORS
28 GRESHAM BUILDINGS, GUILDHALL, LONDON, E.C.
WORKS—LAMBETH.

SYPHONS • SELTZOGENES



SODAWATER MACHINERY

AND APPLIANCES

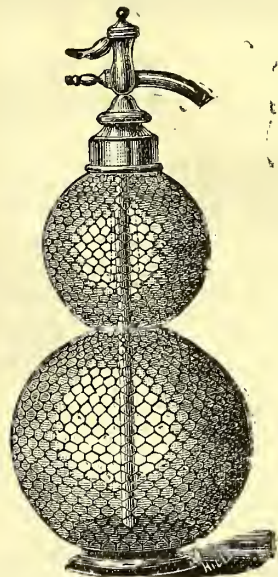
BRATBY & HINCHLIFFE LTD

ANCOATS & 146 MINORIES

MANCHESTER & LONDON EC

81 ROBERTSON STREET, GLASGOW.

All our Seltzogenes are manufactured on the well-known "Fevre" System, and each one is thoroughly tested before leaving our works.

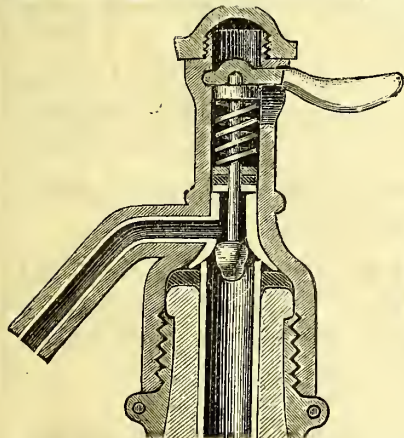


PRICES.

SYPHONS ... 1/6 1/8 and 1/10 each.

SELTZOGENES.

1	2	3	4	5	8 pint.
5/6	6/2	7/	8/	9/11	15/6 each.



Non-Metallic !

Non-Poisonous !!

Pure Water !!!

IMPORTANT INVENTION IN SYPHONS.

NEW PATENT GLASS-LINED (THROUGHOUT)

SYPHON HEAD

PATENTED FOR ENGLAND AND ABROAD.

Absolutely ensuring no metallic contamination or poisoning of the drinks.

THIS PATENT GLASS-LINED SYPHON possesses the following advantages over others:—

Perfect purity of Waters.

Glass Lining throughout, so is always quite clean.

Valve working on glass and in a glass tube prevents any drip from tap.

Freer and fuller flow from tap.

Stronger in every part, as exterior of Syphon Head is of metal, and in appearance like ordinary Syphons, and stand wear and tear three times as long.

PRICES ONLY SLIGHTLY HIGHER FOR ALL THESE IMPORTANT IMPROVEMENTS.

Tested before being sent out to bear a pressure of 260 lbs. to the square inch.

Chemists should insist on having Aerated Waters in only Glass-lined Syphons, and so prevent any poisoning by metallic contamination. It is impossible to lay too much stress upon the importance of this matter.

Patent Glass-Lined Syphon Head put to ordinary Syphons for 20s. per dozen.

Sample Syphon sent carriage paid on receipt of 2s. 6d.

Seltzogenes from 7s. 9d. each, 3-pint size.

MANUFACTURERS AND PATENTEES—

THE GLASS LINED SYPHON COMPANY, LIM. (NICOLE'S PATENT),

NETHERTON ROAD, WOODBERRY TOWN, LONDON, N.

TELEPHONE, No. 7522

TELEGRAPHIC ADDRESS—"IDRIS KENTISH TOWN."

IDRIS & CO.

The Largest Syphon Fillers in the United Kingdom.

SODA. Brilliant, Pungent, and Sparkling.

POTASH. Prepared according to the British Pharmacopœia.

SELTZER. Pure and Delicious Table Water.

LITHIA of guaranteed strength.

LEMONADE. Pure fruity flavour of ripe Lemons.

PURITY. Water filtered by a special process, by which absolute purity is guaranteed. Distilled water used as required. Pure Chemicals only employed. All Goods are regularly subjected to strict analysis.

ELEGANT SYPHONS. Best Block Tin or Silver-plated Tops. IDRIS & Co. make their own Syphons, and can therefore guarantee freedom from deleterious metal.

LOWEST PRICES for Water, both in Syphons and Bottles. Write for Price List.

PROMPT DELIVERY by our Vans in London and Suburbs. Customers called on regularly once or twice a week. Country orders despatched same day as received.

IDRIS & CO. now supply a larger number of the London Hospitals, Public Institutions, and Chemists, than any other Manufacturers, which is in itself a sufficient guarantee of the excellence and purity of the Waters supplied by them.

"I have examined the Mineral Waters prepared by IDRIS & CO., and find that in regard to Chemical purity and brilliancy, they are unsurpassable."

JAMES EDMUNDS, M.D., M.R.C.P. Lond., &c.

Medical Officer of Health and Public Analyst to St. James's, London.

IDRIS & COMPANY,

KENTISH TOWN, LONDON, N.W.



A GUARANTEED NATURAL WATER.

"The strongest and least unpalatable."—PROF. ATTFIELD.

FRANZ JOSEF WATER

IN TREATMENT OF
CHRONIC CONSTIPATION,
Lithemia, all Female Disorders (especially as first laxative after accouchement),
Obesity, Chlorosis, and Anæmia (in combination with Iron).



The "FRANZ JOSEF" WATER is now prescribed by the leading Physicians in Great Britain and abroad.

It is particularly requested that those Chemists not already in possession of the Artistic Show Card of "Franz Josef" Water, of which the above is a photographic facsimile, but lacking the splendid colouring, will at once write for same.

THE "FRANZ JOSEF" CO., 4 Sussex Place Leadenhall St., London.

Retail Prices, **1/6** and **2/-**.

Wholesale of all Mineral Water and Patent Medicine Houses.



DE CARLE'S SOLID FRUIT JUICES.
OR
RIPE FRUIT DRINKS
(REGISTERED N° 72160.)
FROM SOUND, RIPE, SELECTED FRUIT

MAKE DELIGHTFUL
FRUIT SYRUPS
By the simple addition of Sugar and Water.
Orange, Lemon, Raspberry, Ginger, Pine-apple, Lime Juice, Cherry.
Send for a 3 dozen case, which we will send, Carriage Paid, for 10/6.
Showcards, Handbills, &c.

FIND A READY SALE EVERYWHERE.
Be first! Order early! and secure your customers for the Summer demand.

Further particulars and samples from
DE CARLE & SON, MANUFACTURING CHEMISTS, NORWICH.

"PREMIER BRAND"
ESSENTIAL OILS.

Concentrated Fruit Essences—Soluble

MANUFACTURED BY

JOHN CUMMOCK

Who has received Hundreds of Unsolicited Testimonials, also THREE GOLD MEDALS, besides other Honours.

Chemists manufacturing their own Aërated Drinks should write for Prices and Samples of the following:—

ESSENCE "SPARKLING LIMETTA"—Soluble "Essence of Lemon"

ESSENCE "LEMON SQUASH"—Essence for Sherbet

ESSENCE "TONIC HEADING"—Essence for Ginger Ale

AND COMPARE WITH OTHER MAKERS.

Manufactory & Offices: 45 ROPE WORK LANE, GLASGOW.
LATE 32 MAIN STREET.

LONDON:
45 GIFFORD
STREET, N.

TRADE

"CAMWAL"

TOPS THE TRADE

**HARROGATE,
BRISTOL.**

MARK.

TELEPHONE
NO.
7547.

ONLY PRIZE MEDAL



LONDON, 1881.

RAISED BY THE
PERSISTENT ENERGY
AND GREAT CARE
OF CHEMISTS

Year	No. of Members	Dividend
1878	119	None
1879	350	None
1880	430	None
1881	540	None
1882	615	3½
1883	708	5

TELEGRAPHIC

Chemists Starbeck Harrogate



HIGHEST PRIZE MEDAL



BRADFORD, 1882.

Telegraphic
Address
"RUBINE
LONDON."

STRENGTHENED AND
SUPPORTED BY THE
APPROBATION OF THE
MEDICAL PROFESSION

Year	No. of Members	Dividend
1884	908	6
1885	1,193	6
1886	1,463	6
1887	1,612	7½
1888	1,892	5
1889	2,031	7½
1890	2088	8¾

ADDRESSES

Camwal Bristol.

This Company manufactures the various descriptions of Mineral Waters of the highest class and of specified formula, and supplies **ONLY** Chemists and Hospitals.

PRICES.

			In Corked Bots.	In Syphons.				In Corked Bot.	In Syphons.
Carbonated Water	..	5 Grains to Half-Pint	..	1/-	1/8	Lime Juice	..	1/-	2/6
Soda	"	"	..	1/-	1/8	Ginger Ale	..	1/-	2/6
Soda	"	B.P. 15	..	1/-	1/8	Ginger Beer, Glass	..	1/-	2/6
Potash	"	5	..	1/-	1/8	Lithia, B.P., 5 grains to Half-pint	..	1/8	2/6
Potash	"	B.P. 15	..	1/-	1/8	Iron and Quinine Water	..	1/8	—
Seltzer	..	"	..	1/-	1/8	Mineral Acid	..	1/8	—
Lemonade	..	"	..	1/-	2/6				

Syphons, 24s. per dozen.

Cases—3 dozen 3s. 6d.; 4 dozen 4s. 6d.; 6 dozen 5s. 6d. each.

Empties allowed for at same prices.

3d. per dozen charged extra for the delivery of Syphons in London.

SYRUPS.

In 26-oz. bottles, handsomely labelled and capsuled. Raspberry, Strawberry, Cherry, Red Currant, Black Currant, Pine Apple, &c., 8/- per dozen. Lime Fruit Cordial, 8/- per dozen. Bottles charged 1/- per dozen, and allowed for on return.

A holder (Chemist) of £1 share is entitled to all the advantages of this Association.

SAMPLE CASE OF WATERS SENT FREE.

Handbills with Name and Prices supplied gratis to Shareholders.

The Chemists' Aerated and Mineral Waters Association, Limited,
LONDON, HARROGATE, & BRISTOL.

JEWSBURY & BROWN'S (MANCHESTER) SPARKLING TABLE WATERS. UNRIVALLED FOR PURITY AND QUALITY.

SODA WATER.
SELTZER WATER.
POTASH WATER.
LITHIA WATER.
SIMPLE
AERATED WATER.



LEMONADE.
GINGER ALE.
QUININE TONIC.
GINGER BEER.
HOREHOUND BEER

EXTRACTS FROM ANALYTICAL REPORTS.

"The examination of the Waters which I have made has satisfied me that they have been prepared with the greatest care, and are of excellent quality."
FRANÇOIS JONES, F.R.S.E., F.C.S.
On the whole, I have no hesitation in stating that your Aerated Waters are of the highest standard of purity which is practically attainable."

LOUIS SIBBOLD, F.I.C., F.C.S.

J. & B.'s Syphons are mounted with PURE BLOCK TIN, thus ensuring absolute immunity from dangerous metallic contamination.

CARRIAGE PAID AND ON RETURNS.

113 MARKET STREET, and 44 DOWNING STREET, MANCHESTER.

KINMOND'S SYPHONS

Royal Leamington
APNEUMATIC

TABLE WATERS

Were first supplied to H.M. the Queen in 1856,
and to H.R.H. the Prince of Wales in 1862.

KINMOND'S GINGER ALE,

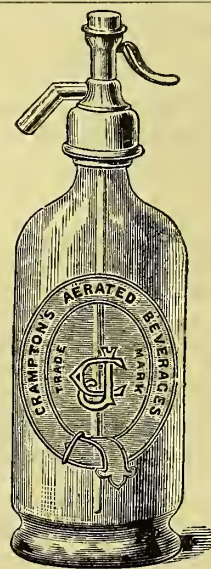
AND ALL THEIR OTHER WATERS,
Are UNRIVALLED for PURITY and QUALITY.

In Ordinary Bottles and Syphons.

MANUFACTORY-
LEAMINGTON.

Send for Trade List and Compare Prices.

BEST QUALITY ONLY
SUPPLIED.



TELEGRAMS—"TYLEROX."

Telephone No. 192.

HAYWARD TYLER & CO.

Whitecross Street, LONDON, E.C.

MEAT FOODS FOR INVALIDS,

AND

WASTE IN METHODS OF PREPARATION.

(Abstract of Paper read at the Annual Meeting of the British Medical Association, August 1889.)

"In the preparation of beef-tea it appears to me that there is considerable waste of material, which arises from a desire to give food of high nutritive value in small quantities, irrespective of its component parts combined in natural proportion. This idea has been fostered by an eminent chemist, whose preparation has not the object, as he himself states, of *feeding the sick*, but was *unfortunately adopted by the public for that purpose*. Nature does one thing, man another.

"One reason for waste in material is, that the fastidious palates of the sick are catered for whilst their bodily health is unintentionally neglected; this results from ignorance. Nurses, cooks, and patients all clamour for clear beef-tea.

"CLEAR BEEF-TEA IS OF NO USE TO ANY ONE FOR FOOD.

"It is true it is 'just what the patients like,' and what they 'can be got to take'; but what is proper for sustenance is lost sight of. However well beef-tea may be made, the most important part is left at the bottom of the cup—'the grounds which are no good.' The patient does not progress; the attendants 'have done all they can do'—which is just what they have not done by rejecting the 'grounds as no good.' When patients are sick, mental equilibrium is more or less at fault, and against their will must they be fed. Attendants therefore, require instruction, and with requisite tact they will apply that knowledge.

"1. An adult European, in moderate work and 150 pounds in weight, requires 22·866 ounces of water-free food, that is, 0·15 ounces for each pound weight, with which is mixed from 50 to 60 per cent. of water, or a total of about 40 ounces of ordinary food—about 305 grains of nitrogen. In addition, a total water-supply of from 70 to 90 ounces, or an average of 0·5 ounces per pound weight. 2. In rest, the amount is about 16 ounces water-free food, equal to 240 grains of nitrogen, and is sufficient. 3. The smallest amount of nitrogen necessary for the inner movements of the body and bare maintenance of life is 138 grains. This may be considered to be the sick man's state.

"For the state of rest in health, 240 grains of nitrogen are said to be sufficient; but a bed-stricken patient, whose muscular and mental efforts are reduced to a minimum, whose vital processes are carried on with much less energy than usual, and who loses comparatively little heat, requires a relatively small supply of food: and, as at least 138 grains must be supplied, this supply should be thoroughly wholesome, easily digested, and consist of nutritive material. *Animal food* especially rich in nitrogenous elements digests in proportion to the minuteness of division and *tenderness of fibre*, sooner than farinaceous, so that it is *better adapted* for those who are only able to take small quantities at one time.

"Private individuals and public institutions have various ways of making beef-tea, some boiling for long periods and others adding 'stock,' and equally varied ways of disposing of the remainder when they have, as they term it, 'extracted all the goodness out of the meat,' which means they have wasted half or two-thirds of the quantity of the meat employed, and double salted what they have retained; the effect of which concoction is to produce thirst, heighten the bodily temperature, and increase nitrogenous waste; these results

arise from the salts being out of proportion to the albuminates. The half or two-thirds of discarded fibre, termed refuse, is by some sold with 'hogs' wash.

"IN ONE INSTITUTION ALONE

I know that over 20 pounds were thus daily thrown away; others charitably (?) give it away. If the goodness has been extracted, where is the charity? Surely actions belie words. Each thus satisfies the conscience that subscribers' or rate-payers' money is not wasted. Private individuals throw the remainder into the ash-pit. There are others, however, in both classes who, more thrifty, use the remainder in soup or other ways.

"Of course, the present system is continued on the plea of succouring the sick person with 'the best beef-tea that can be made,' whilst his starving brother lies outside vainly wishing for what the pigs are fed upon. But admitting that the present method is continued—

AS I AM SURE IT IS

—from honest conviction that it is the best, may it not be worth while to inquire if it cannot be improved by putting on one side preconceived notions, and the dull round of routine, and adopting a method which does not countenance a waste, does not injure or defraud the sick, and reduces the butcher's bill?"

Everyone who has had any experience on feeding the sick on easily-digested Concentrated Meat Foods will be struck by the forcible arguments in the above abstract and easily recognise the truth of the statements contained therein. We have abundance of testimony in support of the desideratum of supplying a Meat Food—that is concentrated and easily assimilated and believe in Caffyn's Liquor Carnis we have got the much needed in all its detail.

From a report received from one of England's greatest Professors of Chemistry (whose name we will furnish on application) we quote the following lines:—

"The analyses and the inspection enable me to state that Caffyn's Liquor Carnis contains, first, all the substances characteristic of Liebig's Extract of Beef; it is, therefore, a powerful stimulant; but, in addition, I find it to contain all the soluble albuminoid constituents of meat; it is, therefore, also a nutrient or true food: and hence infinitely superior in true nourishing power to any Beef Extract or Beef Tea. For, in the preparation of Extract of Meat, or of Beef Tea, or Mutton Broth, &c., the juice of the meat is necessarily heated, whereby the albumin, which is the nourishing part of the juice, is turned to curds, which are all, or practically all, strained out with and in the meat. In Caffyn's Liquor Carnis this highly valuable albumin is retained."

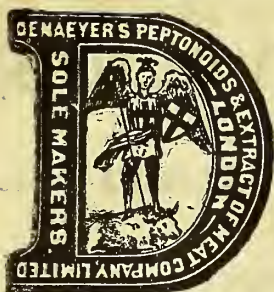
Specimens Gratis from the Manufacturers and Patentees,

THE LIQUOR CARNIS COMPANY (LIM.),

50 Holborn Viaduct, London, E.C. [2]

Laboratories—SMITHFIELD WORKS, LONDON, E.C.

TRADE MARK



THE LANCET:—"About one-third of the whole dry matter consists of true peptone, and another third of albumose. A variety of albumen uncoagulated by heat."—July 12th, 1890.

VIENNA POLIKLINIK:—"Your preparations . . . have proved excellent means of nutrition, and for strengthening individuals of great weakness and poverty of blood."—Prof. SCHNITZLER, Sept. 19th, 1890.

DENAAYER'S

LIQUID STERILISED PEPTONE OF MEAT.

Considerably more nutritive than beef, and more palatable than home-made beef-tea; elegant in appearance. No digestive function need, or can, be exercised, all having been fitted for immediate absorption. Life can be supported indefinitely upon it, and it does not clog upon the most fastidious and delicate palate. It contains all the stimulative extractives and the mineral salts in due proportion, as they exist in beef. 2s. per bottle, ready for use.

LIQUID PEPTONATE OF IRON (Denaeyer), 1s. 6d. per bottle, guaranteed to contain 10 per cent. of the salt in solution, equal to 3.30 per cent. of the metal.

PULVIS FERRI PEPTONATIS (Denaeyer), 4s. per ounce bottle, a beautiful reddish-grey powder soluble in water, compatible with all alkaline or neutral medicines.

TRUE PEPTONATE OF IRON is the produce of our laboratory alone, and is our discovery. The salt is precipitated from its solution in presence of the acid gastric juice, redissolved and absorbed with great rapidity in the alkaline medium met with in the duodenum, so that it does not interfere with digestion, and it is not chemically altered by the juices of the alimentary canal. Should be administered before meals, and its flavour requires no disguise.

PAMPHLETS AND SAMPLES FREE TO MEDICAL MEN.

Wholesale General Agents—Edinburgh: **DUNCAN, FLOCKHART & CO.** Glasgow: **OLD APOTHECARIES' COMPANY (Limited).** Dublin: **HAMILTON, LONG & COMPANY (Limited).**

DENAAYER'S PEPTONIDS AND EXTRACT OF MEAT COMPANY (LIMITED)
118 BISHOPSGATE STREET WITHIN, LONDON. E.C.

PASCALL'S

LIQUORICE

PELLETS

Composed of the FINEST LIQUORICE, the value of which to Public Speakers and Singers is universally acknowledged.

Pellets are the most convenient form of Liquorice ever introduced, and

COMMAND
A READY
SALE.

IN
OVAL
BOXES,

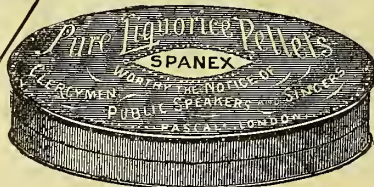
Bright and attractive in appearance.

3/-

PER DOZEN

In One dozen outer boxes.

FACSIMILE OF BOX.



And in 1-lb. Bottles, 2/8 per lb.

Of all the Wholesale Houses, or of the Manufacturer,

JAS. PASCALL, Blackfriars, London, S.E.

20

GEO. MASON & CO.'S

ESSENCE OF BEEF.

HOSPITAL FOR CONSUMPTION, BROMPTON.

Order No. 1090.
"Please supply 120 tins Mason's Essence of Beef as before."



TRADE MARK.

"O.K." BOUILLON.

The "O.K." Bouillon is the best and cheapest Beef Tea ever put before the public. It is made in England from British Beef. It can be sold as low as 6d. per tin.

CONCENTRATED BEEF TEA, MEAT LOZENGES.

MASON'S MALTED FOOD FOR INFANTS.

PRICE LISTS POST FREE.

417 & 419 Kings Road, Chelsea, London, S.W.

ST. MARY'S HOSPITAL, PADDINGTON.

Order No. 802.

"Please send at once 3 tins Mason's Essence of Beef."

EIGHT PRIZE MEDALS AWARDED

GOODALL'S HOUSEHOLD SPECIALITIES.

YORKSHIRE RELISH.

Most Delicious Sauce in the World. Bottles, 6d., 1s., and 2s. each

GOODALL'S BAKING POWDER.

The Best in the World. 1d. Packets; 6d., 1s., 2s. and 5s. Tins.

GOODALL'S EGG POWDER.

One 6d. Tin is equal to 25 eggs. In 1d. Packets; 6d., 1s. 2s. and 5s. Tins.

GOODALL'S CUSTARD POWDER.

Delicious Custards without Eggs. In Boxes, 2d., 6d., and 1s. each

GOODALL'S BLANCMANGE POWDER

Delicious Blancmange in a Few Minutes. Boxes, 6d. and 1s. each.

GOODALL'S QUININE WINE, B.P.

Best Tonic yet Introduced. Bottles, 6d., 1s. and 2s. each.

GOODALL'S GINGER-BEER POWDER.

Makes the Best Ginger-Beer. Packets, 3d. and 6d.

GOODALL'S BRUNSWICK BLACK.

For Painting Stoves, Grates, Iron, Tin, &c. 6d. and 1s. Bottles

GOODALL'S LAVENDER WATER.

A Rich and Lasting Perfume. Bottles, 1s., 2s., and 5s. each.

GOODALL'S PLATE POWDER.

For Polishing and Cleaning all Metals. Boxes, 6d., 1s. and 2s.

GOODALL'S JELLY SQUARES.

Make a Delicious and Nutritious Jelly. In $\frac{1}{2}$ -pint, 1-pint, and Quart boxes, 3d., 6d., and 1s. each.

PROPRIETORS—GOODALL, BACKHOUSE & CO., LEEDS

PATENT MEDICINES

AND

DRUGGISTS' SUNDRIES.

Monthly Price List of Patent Medicines, Druggists' Sundries, &c., will be sent post free on application to

GOODALL, BACKHOUSE & CO., LEEDS.

CHEMISTS

CAN SAVE

TIME

AND

MONEY

by selling my "Plain Label" Lines, and should remit price quoted for a sample $\frac{1}{4}$ -gross, sent **carriage paid**, on first occasion; and if not satisfactory, I will also pay carriage back and return the cash.

Yours faithfully,
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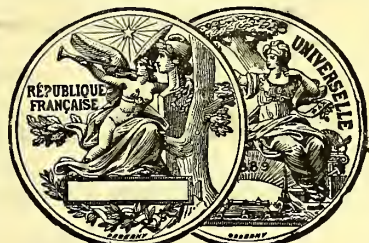
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idem	...	6	4/9 "
Pepsin in Scales $\frac{c}{c}$...	100	49/5 "
idem	...	30	17/ "
Pepsin Powder Solub. $\frac{c}{c}$...	30	12/ "
Granul. Pepsin $\frac{c}{c}$...	30	13/6 "
Liquid Pepsin $\frac{c}{c}$...	25	123/ per gall. net.
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The Throat & Voice.

LONDON]

APRIL 11TH.

[1891.

CHLORATE OF POTASH "TABLOIDS."

FOR AFFECTIONS OF THE VOICE, THROAT AND RESPIRATORY SURFACES GENERALLY.

By using the "Tabloids" the drug is effectually brought in contact with the oral mucous surfaces as a continuous gargle, and its specific action made certain. In acute sore throat Chlorate of Potash "usually relieves the uneasiness in a few hours" (Cohen). "It is used in ulcerated mouth and follicular pharyngitis, and has been employed in croup, diphtheria, and spasm of the larynx" (Brunton).

"Of convenient size, they are beautifully made; and, as they dissolve slowly in the mouth, are well suited for throat affections."—*The Lancet*.

Supplied to the Trade in beautifully graven white metal boxes, blue silk label, at 4s. and 7s. 6d. per dozen. Retail prices, 6d. and 1s. each.

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Supplied to the Trade in beautifully graven white metal boxes, pink silk label, at 4s. and 7s. 6d. per dozen. Retail prices, 6d. and 1s. each.

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The solvent and discutient as well as antiphlogistic powers of Chloride of Ammonium are well known, and have led to its extensive employment in cases of sore throat and bronchitis, attended with abundant secretion of thick and tough mucus or phlegm. The "Tabloids" slowly dissolving secure direct and continuous contact with the inflamed surface. They quickly mitigate irritation, and lessen expectation.

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Composed of COCAINE, Chlorate of Potash, and Borax.

Impart a clear and silvery tone to the voice. Easily retained in the mouth while singing or speaking. Now used by the leading singers and public speakers throughout the world.

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(NITRATE OF POTASH.)

"A popular remedy, sometimes successful in mild cases of incipient inflammatory sore throat, is a small piece of nitre allowed to dissolve slowly in the mouth" (Waring).

DIRECTIONS.—One or more (5 gr.) "Tabloids" should be dissolved slowly in the mouth for the local effect.

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HAZELINE.

This drug is highly commended by the British Medical Association's Committee on Therapeutics. Hazeline, being prepared from the fresh green twigs, contains all the valuable volatile principles of the plant Witch Hazel, and is much more uniform and reliable in its action than are the tinctures, fluid extracts, &c. prepared from the dried bark.

DIRECTIONS.—In catarrh or cold in the head, may be sniffed up the nostrils with an equal part of tepid water.

Dose for irritated or inflamed throat and lungs, half to one teaspoonful occasionally.

Supplied to the Trade in $\frac{1}{4}$ -lb.

and 1-lb. bottles, at 14s. and 42s. per doz. Retail prices, 1s. 6d. and 4s. 6d. each.



Witch Hazel Plant.

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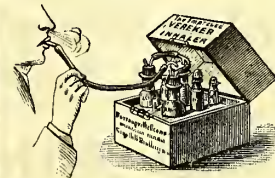
"The neutral vapour of Chloride of Ammonium removes unhealthy and offensive secretions, and restores the long diseased or weakened nasal and respiratory mucous membrane to a healthy state, so that in cases of catarrh, where thickening, induration, and irritation exist, a most decided

improvement is brought about in a short time." In "throat-cough," pharyngeal irritation, and relaxation and weakness of the throat, it acts as a most effective alterative and tonic to the mucous membrane.

Note.—This is the only Inhaler affording absolutely neutral vapour of Ammonium Chloride, which acts as a useful stimulating expectorant.

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Each Tablet in Card Case.

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The Best Emollient in the World must be the
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Proprietors and Sole Makers of the "Vaseline Preparations."

"BLUE SEAL," our regular 6d. size, without Card Case, in Boxes of one gross, 32s. net.

TRADE MARK.

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TRADE MARK.

Called "Adeps Lanæ Hydrosus" in B.P. Addendum 1890, and manufactured under control of Prof. Liebreich.

Best basis for Ointments and Salves known. Absolutely ANTISEPTIC.

"Lanoline" is also supplied in the Anhydrous form, and in the form of Unguentum "Lanolini," which latter is composed of desirable proportions of "Lanoline" and Vaseline, and is of suitable consistence for ointments generally. We also supply "Lanoline" Toilet Soap, "Lanoline" Cold Cream, "Lanoline" Pomade, Toilet "Lanoline" in collapsible tubes, Hazeline Cream and Lano-Creolin.

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Also GLASS CAPSULES of ISO-BUTYL NITRITE.

For use in Angina Pectoris, Asthma, and similar complaints, by Inhalation.

Liquor Cascaræ Suavis.

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An agreeable Aromatic Fluid Extract of *Cascara Sagrada*, possessing the full laxative and aperient properties of the bark.

Sol. Æthyl Nitritis.

Containing 3 per cent. of Pure Nitrite of Ethyl, in Absolute Alcohol and Glycerine.

See paper by Professor LEECH on "The Comparative Effects of Spiritus Ætheris Nitrosi and Solution of Ethyl Nitrite," *Pharmaceutical Journal*, December 22, 1888.

Spiritus Ætheris Nitrosi.

Guaranteed to contain the proportion of Nitrous Ether directed by the British Pharmacopœia.

Æther Nitrosus and Sol. Ætheris Nitrosi.

Respectively 8 and 4 times the strength of the Spirit.

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ESTABLISHED 1859.

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The Pharmaceutical Society of Queensland.

The Pharmaceutical Society of South Australia.

The Hobart Chemists' Association.

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Otago Pharmaceutical Association.

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SUMMARY.

MESSRS C. C. AND J. H. BELL, in our correspondence pages, keep up the interest in the subject of pharmaceutical etymology.

WE note the ninety-ninth birthday celebration of Mr. Solomon Davis, of the Detroit drug-house of Parke, Davis & Co.

USEFUL papers on "Cutting Glass-bottles, &c," and "A Rapid Gravimetric Method" were read to the Manchester branch of the Society of Chemical Industry, and are reported in this issue

A NEW chemists' assistants' association has got into working order at Ipswich.

THE licensed victuallers, brewers, and wine and spirit dealers, are raising an agitation against the perpetuation of the extra tax on spirits. Chemists, on whom it falls with especial severity, are officially mute in respect to the grievance.

A PAPER on the "Arrow-poison of the African Pigmy Tribes" was contributed to the evening meeting of the Pharmaceutical Society by Surgeon Parke, of the Stanley expedition. An unusually large audience assembled, but Mr. Parke was not himself present.

MR. T. STEPHENSON sends us a curious contribution from Bombay in regard to the much-discussed Mist. Olei Ricini question. Mr. Stephenson found the same difficulty in making an emulsion as many other pharmacists have recorded. He then gave the ingredients to a native dispenser without any directions, and he straightway succeeded perfectly.

MORE Hunyadi Janos litigation is reported this week. The present owner of the spring objects to some of the advertisements of his agents, the Apollinaris Company, in this journal, on the ground that they evidence a subtle intention on the part of the company to gradually substitute their trade-mark for his title. Mr. Justice Romer refuses to interfere.

IN Mincing Lane business has been quiet this week, and perhaps the most interesting feature in the market is the sale of cinchona bark at unit prices lower than they have ever before been known. Some attempt is being made to get up a fresh movement in camphor, but the aspect of affairs is rather averse to strong speculation just now. Cod-liver oil, which has been a kind of nine-days' wonder, is also falling in price again.

OUR Australian correspondent sends us a letter of much interest, narrating pharmaceutical progress at the antipodes. The curious history of the registration machinery of New South Wales, a provision for compelling the printing of instructions about antidotes on poison labels in South Australia, and some useful advice to intending emigrants are among the subjects of the letter.

"VETERINARY COUNTER PRACTICE."—This work, as we announced last week, will be ready for issue on April 15. Price 3s. 6d.; post free, 3s. 10d. We must remind purchasers that we cannot send copies for enclosure. Any of the wholesale houses will supply it. The following firms have already undertaken to stock "Veterinary Counter Practice" and our other manuals, and will supply any of them at the published price:—

Ayrton & Saunders, 149 Duke Street, Liverpool
 Barclay & Sons (Limited), 95 Farringdon Street, E.C.
 Duncan, Flockhart & Co., 104 S. Canongate, Edinburgh
 Edwards, Wm. & Son., 157 Queen Victoria Street, E.C.
 Evans, Gadd & Co., 97 Fore Street, Exeter
 Evans, Sons & Co., 55 Hanover Street, Liverpool
 Glasgow Apothecaries Company, 32 Virginia Street, Glasgow
 Ismay, John, & Sons, Newcastle-on-Tyne
 Lewis, H. K., 133 Gower Street, W.C.
 Lloyd, T. Howard, & Co., Leicester
 Newsholme, G. T. W., 74 Market Place, Sheffield
 Pinkerton, Gibson & Co., Edinburgh
 Potter & Clarke, Raven Row, Artillery Lane, E.
 Raines, Clark & Co., Edinburgh
 Sanger, John, & Sons, 489 Oxford Street, W.
 Silverlock, H., 92 Blackfriars Road, S.E.
 Southall Bros. & Barclay, Birmingham
 Sutton, W., & Co., 76 Chiswell Street, E.C.
 Woolley, James, Sons & Co., Manchester



CHEMISTS' ASSISTANTS' ASSOCIATION.—Next Thursday, April 16, there will be a discussion on "The Preliminary Examination."

LAUDANUM DRINKING.—At an inquest held on Saturday on Emelyn Raison, a milliner, of 67 St. Ervan's Road, North Kensington, who died in the Paddington Workhouse infirmary from the effects of laudanum-poisoning, a chemist who was in court told the jury he had one customer who spent ten shillings weekly in the purchase of laudanum, and another who would buy and drink off in his shop two ounces of the drug at one time.

THE SALE OF VERMIN-KILLER.—Mr. A. Braxton Hicks, the Mid-Surrey coroner, concluded an inquest, at Kingston, on Wednesday, touching the death of a female child, aged about 6 weeks, whose body was found in the Thames on March 4. In consequence of Dr. Vernon, who examined the body, stating that he found some blue stains in the mouth and about the clothes, Detective-Sergeant Morley made inquiry, but could obtain no clue to the identity of the deceased. The Coroner: Did you inquire of the grocers who sell Battle's Vermin-killer? The Witness: No, sir; I am informed that it is only sold by chemists. The Coroner: You are mistaken, for grocers sell by far the larger quantity. Dr. Stevenson, analyst to the Home Office, said that he had made an examination of the deceased's stomach and its contents, and found enough strychnine and Prussian blue—the constituents of Battle's Vermin-killer—to kill several infants. Poisoning was the cause of death. The jury returned a verdict of "Wilful murder against some person or persons unknown."

GENERAL APOTHECARIES' COMPANY, LIMITED.—The annual meeting of this company was held last week at the offices, 49 Berners Street. Mr. George Brown, M.R.C.S., who occupied the chair, in moving the adoption of the report and balance-sheet for the year 1890, said that the business of the company continued steadily to expand, the sales last year having amounted to a larger total than in any year since 1885. The net profits were 1,127*l.* 8*s.* 8*d.*, which sum it was intended to apply towards restoring the balance of lost capital which accrued during the former management. The loss, which, when the present board came into office in 1887, was 4,974*l.* 9*s.* 7*d.*, has now been reduced to 118*l.* 5*s.* 7*d.* The only unsatisfactory feature in the working of the company was the City retail branch, the net profit of which only amounted to 109*l.* 12*s.* 5*d.* An offer had been made to the directors to take the shop and basement and top floor, now occupied by the company for the City retail business, at a rental of 600*l.* per annum and 500*l.* premium. This, together with the income derived from letting other portions of the premises, will produce a profit rental of 280*l.* per annum. In concluding, the chairman referred to the fact that over 1,500*l.* had been spent during the past year in carrying out alterations, repairs, and improvements at the head-office and warehouse, the whole of which had been paid out of current revenue without touching the invested capital. The report was unanimously adopted. A resolution empowering the directors to accept the offer which had been made for the premises occupied by the company for carrying on the retail business was carried unanimously.

WHITE AND YELLOW WAXES.—We have already referred to the work by the Buisines on bees-wax and the bleaching thereof. They find that the net appreciable result of the bleaching of wax is the diminution of the quantity of hydrocarbons from 13-14 to 11-12 per cent., and lowering of the iodine absorption from 10-11 to 6-7 per cent. From this it is evident that in bleaching by air, besides the destruction of the colouring-matter, which undergoes a total oxidation, the non-saturated compounds of the wax (the acids of the oleic series and the non-saturated hydrocarbons) fix oxygen forming saturated compounds not capable of absorbing iodine.

Provincial Reports.

Items of news, and newspapers containing matters of interest to the trade, sent to the Editor will much oblige.

BIRMINGHAM.

ROBBERY AT A BIRMINGHAM PERFUMER'S.—On Saturday morning last, at about 10 A.M., a man called at the perfumery manufactory of Messrs. Barnett & Co., Moor Street, Birmingham, and, jingling a lot of silver coins in his hand, inquired of Mr. Barnett whether he could do with a couple of pounds' worth of silver. Mr. Barnett said he was not particularly in want of silver, but would take it to oblige the man. He took the money, and, after giving the gold for it, put it in the cash-box, which was placed on a shelf in the cashier's office adjoining Mr. Barnett's office. The man asked Mr. Barnett to sell him a bottle of scent, which Mr. Barnett did, and after receiving the bottle he departed. About an hour afterwards another man entered the office, and asked Mr. Barnett the price of a bottle of rosewater. Mr. Barnett informed him of the price, whereupon the man said he could have some put in a bottle. The man was standing at a door which leads into both the cashier's office and Mr. Barnett's room, and immediately after the latter had gone to the rear of the premises to give the order for the rosewater, the customer asked the cashier to tell Mr. Barnett not to trouble about getting the rosewater just then, as he would pay for it, and send a boy up afterwards for the bottle. The cashier went after Mr. Barnett to deliver the message, and was only away for a minute. When he came back the man was just outside the door. He took the cashier outside, and inquired the price of some bottles of scent in the window. The information was given, and the man paid for the rosewater and left, saying he would send for it in about half an hour. Twenty minutes later the cashier went to put some money in the box, but found it missing. The morning customers were naturally suspected. There was about 13*l.* in the box at the time, but had the robbery been committed an hour later the thieves would have been the richer by just another 40*l.*, and it is needless to say that the second caller has not yet called for his bottle of rosewater. A youth named Newland (18), described as a tailor, was brought before the stipendiary on Monday charged with having perpetrated another cash-box robbery at a butcher's in the Coventry Road. A detective said the same man had been identified as the perpetrator of the robbery at Messrs. Barnett's. He was remanded for a week.

IPSWICH.

IPSWICH CHEMISTS' ASSISTANTS' ASSOCIATION.—A meeting of Ipswich assistants was recently held for the purpose of forming an association to hold monthly meetings for readings and discussions. Almost all the assistants in the town were present, and strongly supported the idea of forming such an association, provided someone of them put forth a little energy and, as it were, put the flame to the fuel. A dinner was held on March 5, and the first monthly meeting was held on April 2, when Mr. L. Cameron read a paper on "A Chemist's Position," which drew a good discussion. Mr. J. H. Brown was in the chair.

LIVERPOOL.

PHARMACEUTICAL STUDENTS' SOCIETY.—At the meeting of this society the President, Mr. H. Wyatt, jun., read the following note on

ICHTHYOL.

Ichthyol, as the ammonium compound of ichthyol-sulphonic acid is usually termed, though largely prescribed for external use, has only recently begun to find favour as an internal remedy. It is usually ordered in capsules of 5 or 10 minims, or in pills containing 2½ grains in each, many prescribers ordering the sodium or potassium ichthyol sulphonates, as they are of a firmer consistence, and, consequently, can be formed into less bulky pills, requiring as they do less

absorbent powder to mass them. By evaporating the ammonium ichthyol carefully over a water-bath, a dark-brown, easily-powdered residue is left, which, however, soon becomes a pasty, somewhat deliquescent mass, readily cutting into pills which should be coated with gelatine or varnished. I found that 120 grains of ammonium ichthyol yielded 54 grains of residue, a loss equivalent to 45 per cent. I was asked by a medical man if there was such a salt procurable as a magnesium-ichthyol sulphate, as he wished to try it internally. The only salts I could see mentioned in any books of reference were the sodium, ammonium, potassium, and lithium for internal, and the zinc for external use. So my only course was to try and evolve some way of working up the material I had to hand—viz., ammonium ichthyol—into the required salt. After one or two failures, it struck me the easiest and quickest way would be to evaporate the ammonium ichthyol down to dryness after the addition of milk of magnesia. Accordingly, to 120 grains of ammonium ichthyolate I added 15 grains of freshly-burnt magnesium oxide, made into a thin milk with 5ij. water, and evaporated the mixture with constant stirring over a water-bath to dryness, during which process ammonium was given off, a light-chocolate powdery mass resulting. On weighing this I obtained 83 grains—that is to say, 135 grains (120 grains ichthyol and 15 grains magnesium oxide) lost 52 grains in drying, or, roughly speaking, 8 grains of the magnesium = 12 grains of ammonium ichthyol. This magnesium compound formed very good pills by the addition of a little water, and was readily soluble, the therapeutic effects, according to the doctor, being also satisfactory; so that the evaporation of the mass had not impaired its medicinal activity.

The last meeting of the session, which will take the form of a smoking social, will be held on Thursday, April 23, at the Falcon Restaurant, Lord Street.

NEWCASTLE-ON-TYNE.

NEWCASTLE-ON-TYNE CHEMISTS' ASSISTANTS' AND APPRENTICES' ASSOCIATION.—The annual business-meeting of this association was held on April 1, Mr. F. Park, president, in the chair. The reports showed that the association was in a flourishing condition, the balance of cash on hand being greatly in excess of last session. The following officers were then appointed:—Hon. president, Mr. B. S. Proctor, F.I.C.; president, Mr. G. F. Merson; vice-president, Mr. B. T. Ord; secretary, Mr. P. Bell, 11 Grey Street, Newcastle; assistant secretary, Mr. T. S. Herd; treasurer, Mr. H. Pattinson, 124 Northumberland Street. Members of committee:—Messrs. M. Bell, G. Cormack, Kellett, Park, Pescod, Robson. Prize committee:—Messrs. Bell, Merson, and Park.

CHARGE AGAINST A MEDICAL ELECTRICIAN.—At the Newcastle-on-Tyne Police-court, on April 3, Edward Moross, describing himself as a medical electrician, was committed for trial, bail being refused, on a charge of having assaulted two young women, aged 17 and 18 years respectively. The accused, under the style of professor, has for some time been lecturing in the Newcastle district, the meetings being crowded by people desirous of being cured of neuralgia, deafness, &c. The young women went to him in the rooms attached to a public hall in Newcastle, one suffering from deafness and the other from neuralgia, and it was alleged that under the pretence of medical treatment the prisoner committed assaults upon them.

SHEFFIELD.

QUININE TO WORKHOUSES.—The Rotherham Guardians who had paid 12s. 6d. per oz. for quinine, have had to pay 10s. 6d. per oz. of the amount they had spent for 4 oz. out of their own pockets. The auditor has refused to allow more than 2s. per oz., because the trade price of Howards' quinine at the time payment was made was only 1s. 10d. per oz., or 1s. 9d. per oz. if a larger quantity was purchased.

SWAFFHAM.

DEAR TOBACCO.—At Swaffham, last week, Edward Palmer, porter, was charged with stealing five ounces of tobacco,

value 1s. 4d., the property of his master, Mr. F. R. Bell, chemist, of Swaffham, on March 29; and Robert Wright, butcher's assistant, was charged with receiving the same knowing it to have been stolen. Palmer pleaded "Guilty," but Wright pleaded "Not guilty." Evidence was accordingly taken, and in the course of it Mr. Bell stated that Palmer had been ten years in his employment. It appeared that a policeman had discovered the theft. Ultimately both prisoners were found guilty, and a fine of 28s. was imposed on each, which they paid.

WAKEFIELD.

CLAIRVOYANT MEDICAL PRACTICE.—Much interest has been taken in this locality in the pretensions of a man and his wife—a Mr. and Mrs. Balme, of Ravensthorpe—who, for the past twelve or fifteen months, have been practising with wonderful success on the sick, the lame, the maimed, and the halt of the towns and villages around. They profess to have discovered by accident that Mrs. Balme is possessed of clairvoyant powers, and for some time past they have abandoned the avocations they formerly followed in some of the local mills—they were of the artisan class—and now receive patients at their residence, diagnose their complaints, and supply them with medicine. They charge 2s. 6d. for an interview, and it is said their patients number about five hundred a week, and that some of these come in carriages. The *Wakefield Herald*, in view of the widespread interest and sensational reports which have been circulated, has very properly exposed the methods of Mr. and Mrs. Balme by publishing detailed accounts of visits paid to them by representatives of the paper. The story of Mrs. Balme's diagnosis of the complaints of the *Herald's* young men, of her cabalistic prescriptions, which profess to be written while she remains in the clairvoyant state, and of the medicines compounded from these prescriptions, is sufficiently ludicrous. Probably, however, the proceedings are not illegal under any medical Act. The practitioners assume no title, and it would hardly do for the Society of Apothecaries to charge them with having "acted as apothecaries." The art and mystery in the keeping of the society does not include clairvoyance in its popular sense.

IRELAND.

PHARMACEUTICAL SOCIETY OF IRELAND.—Messrs. L. Murray, S. Adamson, J. S. Wilson, and W. White have passed the examination for the licence to act as a pharmaceutical chemist. Two were rejected.

A GOOD OPENING.—Notice has been issued by the committee of management of the North Dublin Union that at noon on April 17 they will meet to elect a pharmaceutical chemist for the Coleraine Street dispensary, at a salary of 100l. per annum, the daily attendance averaging three hours.

A DRUGGIST GETS A BEER LICENCE.—At the Newtownards petty sessions Mr. James Ferris, druggist, Regent Street, Newtownards, applied for a beer-dealer's and beer-bottler's licence, to enable him to pursue the bottling trade. He wanted the licence so that he might carry on the bottling trade, as most of the beer sold in the town was supplied from other places. The application was opposed by the constabulary, but granted by the magistrate subject to some structural alterations.

DRUG CONTRACTS.—Tenders for medicines, drugs, surgical and medical appliances are invited by the under-named public bodies on the dates set opposite to each place:—Boyle Union, May 1; Claremorris Workhouse, April 15; Mullingar Union, April 16; Skull Union, April 21; Stranorlar Union, April 13; Tobercurry Board of Guardians, April 13. Each of these varies its stipulated terms in some degree, but all are unanimous on the "no charge for empties" and free delivery requirements.

THE SALE OF DRUGS FOR FELONIOUS PURPOSES.—At the Cork spring assizes last week, before the Lord Chief Justice, a Kerry doctor named Carrol Sullivan, a school-master named Daniel Donoghue, and his wife, Hanora Donoghue, pleaded not guilty to an indictment charging them with having administered a noxious drug to Margaret

Shea, for the purpose of causing an abortion, at Tralee, on January 10 last. The evidence was to the effect that the girl was employed by the Donoghues as servant, and that she had become enceinte through intercourse with Daniel Donoghue. One part of the evidence was of trade interest. Cornelius O'Connell, assistant to Mr. Murphy, chemist, Tralee, remembered the prisoner Donoghue coming into the shop in the first week in January and asking for some medicine to procure abortion. Witness said he would give nothing for that purpose. He said it was for a young lady, a friend of his, who was in a certain state. He mentioned no particular medicine, but he asked if there were medicines sold for procuring abortion. Witness said there were, but gave him no information. Donoghue asked if he got a prescription from a doctor would witness compound it, and he answered that it would depend on the character of the prescription. On subsequent occasions the prisoner came again for medicines to cause abortion, but was refused. William White, assistant to Dr. Dowling, apothecary, Tralee, deposed that Donoghue came into the shop last December and asked for 1 oz. of fluid extract of ergot. The bottle (produced) was full when the prisoner got it, and the name was written on the label. Witness asked the prisoner what the ergot was for, and he said for hemorrhage, or bleeding from the lungs. He inquired was he aware it was poison, and the prisoner said "Yes," and the doctor directed him to take only four or five drops. Witness did not enter the sale of the drug in the poison-book. He treated it as a prescription from a doctor. To his lordship: Towards the close of labour ergot was given to assist delivery. The judge ruled that there was no evidence against the doctor, and the jury failed to agree in reference to the female prisoner, who was discharged. Daniel Donoghue was sentenced to two years' imprisonment with hard labour.

NEW COMPANIES.

STAFFORDSHIRE CHEMICAL COMPANY (LIMITED).—Capital, 50,000*l.*, in 10*l.*; object, to carry on business as chemical manufacturers. The first subscribers, taking one share each, are:—F. L. Steel, 11 Mount Street, Manchester, merchant; John Dunn, 53 Brown Street, Manchester, merchant; Solomon Murray, Holme's Chapel, Cheshire, gentleman; John Cole, Pendleton, clerk; Peter Dunn, 53 Brown Street, Manchester; Joseph Hardman, Wetly Abbey, manufacturing chemist; A. E. Harter, Woodcote Place, Epsom, calico printer. The number of directors shall not be less than three, nor more than five, and the first are Messrs. J. Dunn, Joseph Hardman, and Solomon Murray.

JOHN DAWSON & CO. (LIMITED).—Capital, 30,000*l.*, in 10*l.* shares. Objects: To acquire the business of chemical manufacturer and colour-maker carried on at Kirkheaton, near Huddersfield, under the style of "John Dawson," in accordance with an agreement made on March 19 between John Dawson and Benjamin D. Hill. The first subscribers, who take one share each, are:—John Dawson, Kirkheaton; A. Dawson, Huddersfield; Arthur Dawson, Huddersfield; J. W. Hampson, Huddersfield; S. Okell, Bowden, Cheshire; R. A. Laing, St. Peter's Road, Croydon; R. Wilson, Whalley Range, Manchester. There shall not be less than three nor more than five directors. The first are: J. W. Hampson, S. Okell, and John Dawson. Qualification, 250*l.*

WILLIAM SHARP & SONS (LIMITED).—Capital, 30,000*l.*, in 10*l.* shares. Objects: To acquire the Central Confectionery Works, Vincent Parade, Balsall Heath, Worcestershire, and to carry on the business of manufacturing confectioners, chemists, druggists, &c. The first subscribers, who take one share each, are: William Sharp, Morton Villa, Avenue Road, Leamington; Sarah Sharp, 170 Bristol Road, Edgbaston, Birmingham; William G. G. Sharp, Balsall Heath; H. C. Sharp, Balsall Heath; George D. Deeley, 24 Temple Row, Birmingham; James W. G. Hill, Birmingham; F. J. Reynolds, 35 Waterloo Street, Birmingham. There shall be not less than three nor more than five directors. The first are: William Sharp, William G. G. Sharp, and H. C. Sharp. Qualification, 200*l.*

Foreign News.

DRUG ADULTERATION IN HOLLAND.—A parcel consisting of half a ton of anise, imported from Antwerp, which was recently offered for sale in Amsterdam, proved to be largely adulterated with the fruits of *conium* and *echinocloa*. On these grounds the local medical inspector was communicated with, and the sale of the parcel prohibited.

A VETERAN DRUGGIST.—Mr. Solomon Davis, of the Detroit drug firm of Parke, Davis & Co., celebrated his ninety-ninth birthday anniversary last month. The day was made the occasion of a family reunion at the home of one of his sons, Mr. George S. Davis. A feature of the occasion was a serenade by Parke, Davis & Co.'s band. Mr. Davis is described as " hale and hearty and possessing remarkable vigour of mind and body."

OFFICIAL PHARMACY IN RUSSIA.—The St. Petersburg Pharmaceutical Society, which has a membership of 275 against 284 in 1889, has elected Apotheker Martenson the president in place of the late Mr. Alex Forsmann. The society is about to petition the Russian Government for the entire prohibition of the importation of patent medicines into Russia. The society's school of pharmacy has been attended during the year 1890 by eleven pupils. At the commencement of the year 1891 the society's capital amounted to 3,500 roubles, the benevolent fund was worth 1,400 roubles, and sums amounting to an aggregate of 15,350 roubles were invested for the purpose of providing scholarships and medals.

THE STATE OF OREGON has now got a pharmacy law of its own. The features of it most notable to British pharmacists are that only registered pharmacists can practise as such in the State. Any person will be entitled to be registered as a pharmacist who is a graduate in pharmacy, a licentiate in pharmacy, or who at the time the Act takes effect is engaged in the business of a dispensing pharmacist in the State of Oregon, in the preparation of physicians' prescriptions, and in the vending and compounding of drugs, and poisons. The pharmacy board has power to grant certificates of registration without further examination to the licentiates of such other boards in pharmacy as it may deem proper. Assistants have to be registered as such if they are to act in that capacity.

IMPORTATION OF STRYCHNINE INTO INDIA.—At the trial of a prisoner at Bombay charged with the murder of a family of five persons by administering strychnine to them it transpired, during the examination of a clerk in the employ of Messrs. Hirjee, Nooljee & Co., that that firm, from whom the strychnine had been obtained, had recently imported the large quantity of one hundred ounce bottles of strychnine from England. This statement seems to have created some concern among the medical profession in Bombay, and one eminent local doctor, writing to the *Bombay Gazette*, expresses astonishment that such an enormous stock of this virulent poison should be imported by one firm, and thinks the Legislature ought to take some notice of the fact. He also comments rather severely on the carelessness of Portuguese untrained assistants who appear to be generally employed by chemists in that district.

THE AMERICAN WHOLESALE DRUGGISTS' ORGANISATION.—The executive committee of the drug section of the United States Board of Trade and Transportation recently met to devise a constitution, by-laws, and rules for the government of the section. At the general meeting, which will be held early in April, the committee will submit recommendations, among which will be the election of a secretary and treasurer for the section, and the selection of a director from among the members of the drug section to the board of directors of the board itself. The committee will also recommend the appointment of three special committees—viz., Arbitration, Legislation, and Membership—and several subordinate committees representing the different branches of the drug trade in the drug section. A circular will be prepared by the chairman of the section, showing the present strength of membership, and inviting members of the drug trade who have not already applied for membership to join. We believe that the association at present numbers about sixty of the leading New York drug firms.

FRENCH PHARMACEUTICAL NEWS.

(From our Paris Correspondent.)

PHOTOGRAPHING THE SKY.—The International Congress for arranging the production of a photographic map of the sky was inaugurated at the Paris Observatory last week. Different zones are to be allotted to the various observatories interested in this gigantic undertaking, which, it is stated, will require the use of some 10,000 plates. To insure the homogeneity of these numerous fractions, the photographs must be taken almost simultaneously, and by similar means, at each astronomical station in the New and Old World. The photographic installations are well advanced, and the congress has now to fix the conditions and date of the undertaking to secure the desired uniformity of results. A powerful impulse will undoubtedly be given to stellar photography throughout the world by this interesting project.

SPONTANEOUS CURDLING OF MILK formed the subject of a paper read last week by M. Béchamp at the Academy of Medicine. The researches and experiments of this savant since 1873 have led him to oppose the generally-accepted opinion that the souring and curdling of milk are due to the action of germs, or microbes, contained in the air. After detailing various experiences both with boiled and unboiled milk, pure and mixed with antiseptics, M. Béchamp stated his conviction that the true cause of these phenomena is "Microzèmes," necessary anatomical elements contained in the fluid. He thinks that M. Pasteur and other savants have not distinguished with sufficient accuracy the difference between the two classes of organic mixed bodies—(1) those emanating from living organisms; (2) those formed from elementary bodies—which are physico-chemical. The first named produce vibrations by their spontaneous curdling; the second only curdle and ferment on exposure to the air.

THE MANUFACTURE OF MINERAL WATERS.—An extensive fraud in the fabrication of mineral waters has recently been discovered in Paris. A large shop exists for the sale of these specialities at 62 Rue Jean Jacques Rousseau, where a considerable business has been done, the prices asked for Vichy, Vals, St. Jean, and other waters being much below those charged in the pharmacies and at the dépôts of the various sources. The proprietor of this establishment, a M. Monplat, and his employé, named Ruthière, have just been prosecuted for defrauding the public in the nature of the articles sold. Nothing, as far as appearances went, was omitted to conceal the fraud, the bottles, corks, capsules, labels, &c., being identical with those used by the mineral-water companies. On searching the premises the police found a large number of accessories of a compromising character. These included 10,500 capsules and a machine for stamping them in relief; this was arranged with a movable matrice, which could be changed according to the mark required. At the moment of the seizure Ruthière was employed in filling bottles bearing the Vals label with water evidently manufactured by Monplat. The room in which Ruthière was found was full of bottles, while an enormous quantity of bicarbonate of soda that was partially hidden proved to be particularly compromising. Besides this, 1,030 bottles of manufactured water were also seized. Monplat's defence was that all this artificial water had been made up by his predecessor, in spite of the fact that his employé was caught filling the bottles. The fraudulent preparation of the water was carried out in a secret laboratory, of which Monplat alone had the key. After an energetic defence by counsel, Monplat was condemned to six months' imprisonment, 120*l*. fine, and 200*l*. damages. Ruthière escaped lightly with only 15 days' prison and 4*l*. fine.

THE RESEARCH LABORATORY gets the credit of the acointine research in the "Proceedings of the Chemical Society" issued this week.

Personalities.

MR. BENJAMIN W. FORD has ceased to act as secretary and London manager for the Dee Oil Company (Limited) since April 1.

MR. T. R. MAGGS, of Yeovil, has sold his business to Messrs. Gatward & Wright, who were formerly with Messrs. Brady & Martin, of Newcastle.

MR. A. J. PHILLIPS has purchased the business of the late Mr. John Alden at Cromwell Road, South Kensington.

MR. E. E. ANDERSON has opened a pharmacy at 145 South Lambeth Road.

MR. W. JONES has purchased the old-established business of Messrs. Lowe & Wylde, at 53 King's Road, Chelsea.

DR. BRUNO HIRSCH, the author of the *Universal Pharmacopœia*, celebrates his jubilee as a pharmacist on April 13.

MR. R. A. MCIVOR, late of Percy Main, has taken the Medical Hall at Eyemouth, N.B., carried on for many years by Dr. Forsyth.

MR. W. HAZARD, of Commercial Road, Bournemouth, has retired from business, having sold his business to Mr. J. H. Williams, formerly of Hayle, Cornwall.

MR. T. A. ELLWOOD, F.C.S., A.I.C., M.P.S., &c., late demonstrator at the Central School and ex-president of the Chemists' Assistants' Association, has been appointed lecturer and demonstrator at the City School of Chemistry and Pharmacy (Limited), 27 Chancery Lane, London, W.C.

MR. HENRY PEET, chemist and druggist, Liverpool, who has for some years been a member of the select vestry, was on Easter Tuesday elected churchwarden of the parish of Liverpool.

At the annual meeting of the St. Luke's (Middlesex) Vestry, on April 2, Mr. Geo. Eade, chemist, of Goswell Road, was unanimously selected as an overseer of the poor for the ensuing year.

TRADE-MARKS APPLIED FOR.

THE *Trade Marks Journal* publishes the following notice:—"any person who has good grounds of objection to the registration of any of the following marks may, within one month of the date of this journal, give notice in duplicate, at the Patent Office, in the form 'J,' in the second schedule to the Trade Marks Rules, 1890, of opposition to such registration." All communications to be addressed to H. Reader Lach, Esq., Comptroller General, at the Patent Office, 25 Southampton Buildings Chancery Lane, London, W.C.

(From the *Trade Marks Journal*, April 8, 1891.)

"UNG. EMOLLIENS," and signature; for ointments. By T. F. Elton, trading as Elton & Co., 23 Endsleigh Gardens, Euston Road, N. 154,302.

"TULLAGININE"; for a cough-mixture. By J. Perry, trading as Perry & Co., 177 Kennington Road, London, 154,438.

"THOMAS ARMSTRONG," as signature; for mineral and aerated waters. By Thomas Armstrong, trading as Thomas Armstrong & Son, Dipton, Durham. 153,031.

Sketch of statue of Sister Dora; for mineral and aerated waters. By J. Marsh, Harden Lane, Bloxwich. 154,075.

"SODOZONT POWDER," and other wording, on circular label; for dentifrices. By W. H. Hall, trading as Hall & Ruckel, 46 Holborn Viaduct, London. 154,037.

Sketch of three arrows tied with ribbon; for toilet-powder, perfumes, &c. By J. Woolley, Sons & Co, 69 Market Street, Manchester. 154,541.

ARTIFICIAL ULTRAMARINE was discovered by Köttig, director of the laboratories of the Königl. Porzellan-Manufaktur in Meissen, in the spring of 1838. The manufacture at Meissen is now abandoned.

Pharmaceutical Society of Great Britain.

EVENING MEETING.

THE last evening meeting of the session was held at the Bloomsbury Square lecture-theatre on Wednesday night, the attendance being considerably larger than usual, no doubt as a result of the announcement that Surgeon T. H. Parke, who accompanied Mr. Stanley on his tour through Darkest Africa, would read a paper on the arrow-poison of the Pigmies. Everybody has heard of the African dwarfs and their cunning modes of warfare, and expectation ran high in anticipation of an account of the mysterious and deadly poison of the little fiends from the lips of one of the few Europeans who had met the savages face to face, and by his own hand applied the remedies of Western medical science to his wounded fellow-explorers. But in this respect the hope of the audience was doomed to disappointment, for Mr. Carteighe, when he took the chair at 8.15, commenced by announcing that Surgeon Parke had been ordered that very day to march to Windsor with the Life Guard regiment to which he belonged, and had sent a letter expressing "not only his regret, but his disappointment," at not being able to appear before the Society that night. The disappointment of the audience was evidently at least as keen. The evening meeting audiences have not been spoilt this session in the matter of interesting lectures, and Mr. Parkes' April lecture on arrow-poison was looked upon as a rare treat. But the surgeon's absence was unavoidable, and hence the President called upon Mr. Holmes, whom he named as the joint-author of the paper, to read it to the meeting.



SURGEON T. H. PARKE.

January 27, 1887.—Arrived at Alexandria 6 A.M. Surgeon T. H. Parke of the A.M.D., came to my hotel and applied for the position of surgeon to the Expedition. It was the one vacancy not yet filled to my satisfaction. I considered it a Godsend, though I appeared distant, as I had had two most unpleasant experiences with medical men, both of whom were crotchety and inconsistent in England. An extremely handsome young gentleman—diffident somewhat—but very prepossessing.—H. M. STANLEY'S *In Darkest Africa*.

THE AFRICAN DWARFS' ARROW-POISON.

The paper, it appears, was written by Mr. Holmes, to whom Surgeon Parke had handed his memoranda and specimens. On the table some seven or eight specimens of the Pigmy arrows, some of them besmeared with the poisonous substance, resembling anchovy paste, were displayed, and next to these the leaves and bark used as ingredients in the poison preparation, with other leaves and a vial of pale grey powder used as antidotes. Surgeon Parke himself saw the dwarfs, or Mombutti, and the Wazangori, a taller and darker people, inhabiting the forest clearings, prepare the potion. The fatal character of the poison all had heard of. Of all the men wounded by the Pigmy arrows only one, Lieutenant Stairs, survived the wound, and he owed his life to the promptitude with which the wound had been sucked by a comrade—in Surgeon Parke's absence, Mr. Holmes might say that that officer himself was the man who had thus saved Lieutenant Stairs' life. A pigmy woman captured by the expedition told Surgeon Parke how the poison was prepared, and showed him the five ingredients of which it was composed, but she would only do so on condition that no one else should witness the process. The five poisonous ingredients consisted of two kinds of leaves, two distinct varieties of stems, one of which was that of a thorny creeper, and a small seed, like a very small bean.

The first of the two barks employed was that of a very high tree, growing plentifully in the forest, and possessing a trunk fully six feet in diameter. Unfortunately, at the time of the passing of the expedition the tree bore neither flowers nor fruit. The outside bark was dark brown and the inside a pinkish red, and the Wazangori took a piece about two inches square in the preparation of a cupful of the poison. The leaves of the tree were large and of a dark green colour, and the plant occurred freely throughout Darkest Africa, from the Congo right to the ultimate fringe of the forest. The bark had been identified without much trouble as that of *Erythrophloeum guineense*, of the N.O. Leguminosæ. The third poison, as already stated, was yielded by a creeper, also very common in the forest, and which ascended trees to a height of from thirty to forty feet. The creeper is provided with strong thorns, very hard and prickly on the old, but softer on the younger stems. Its lower leaves are dark in colour, but near the apex their shade is considerably paler. The plant was of the *Combretum* genus, but it could not be precisely identified. Then there was a very bold leaf, (number 2 poison), of which unfortunately only a fragment had been brought over by Mr. Parke. The fragment itself was over a foot in length, and the leaves frequently attain a length of six feet; they are of a dark green colour, and the plant was a common one, of an herbaceous character. The tree yielding the leaf bears a handsome white flower several inches in diameter. The plant belongs to the N.O. Commelinaceæ, and was found identical with a specimen existing at Kew, and brought over by Mr. G. Mann, from his Niger expedition in 1859. That specimen was the *Palisota Barteri*, Hook. f.

The next ingredient was the green stem and branch of a *Strychnos*, growing to a height of 10 or 11 feet, and having a stem about 2 inches in diameter. The upper surface of the leaf is dark green, the lower surface pale green in colour. The tree had a smooth brown bark, a piece of which was shown on the table. The leaves were from 3 to 6, or even 8 inches long, and about half as broad, and marked with three pronounced veins. Neither flower nor fruit of the tree could be collected. The one leaf brought over by Mr. Parke had unfortunately been mislaid, but specimens of the leaf existed in the Hanbury Herbarium, and it had been identified without difficulty as belonging to *Strychnos Icaja*.

Finally, there were the seeds, or small beans, dark brown in colour, the surface smooth, and about $\frac{1}{4}$ inch by $\frac{1}{2}$ inch in dimensions. The section of the seed showed the inside to consist of a whitish oily pulp, not containing any albumen. Eight seeds were the quantity used in the preparation of a cupful of the poison. These seeds belonged to *Tephrosia Vogeli*, and were much used as a fish-poison by the natives all over Central Africa. The poison was prepared by simply pounding together in a cup the leaves, seeds, and scrapings of the bark. It is at first of a greenish colour, but becomes paler subsequently. As it was said that the poison lost its activity

within three or four days, Mr. Parke determined to make an experiment. He and Lieut. Stairs watched a Monbotti woman pound and mix the poison on November 23, 1888, and they tried its effect on the following day on Lieut. Stairs' dog. At 9.30 A.M. on the following morning they rubbed in some of the poison into the neck of the animal, where an incision about half an inch long had been made. The day following, at 1.45 P.M., 28½ hours after the administration of the poison, the dog died of its effects. The introduction of the poison did not appear to cause the animal any pain. During the night the dog did not make any noise.

At Fort Bodo, on one occasion, a Zanzibari came into camp at 9.30 A.M. wounded by a poisoned arrow. He had walked a mile with his wound, and experienced no pain or inconvenience. All efforts to save him, however, were of no avail, and he, like almost all others wounded in a similar manner, died of tetanus after six days. Then Mr. Holmes referred to the antidotes used by the natives, of which four specimens were shown, consisting of a pale grey powder and three varieties of leaves. The first of the latter, belonging to the "Unona" variety, was a leaf varying from 3 to 12 inches in length, and about 3 inches at its widest part, the upper surface a yellowish and the lower of a peculiar blueish green, or slatey colour; the second, of which fragments only were exhibited, showed a bold leaf, 8 to 14 inches long, and about 3 inches broad, lanceolate, dark green above and pale below, with a very pronounced midrib covered with brownish hair, and veins alternating at the base, but almost opposite towards the top of the leaf; the third was a dark green leaf, of strong texture and somewhat glossy surface, pointed at the end. Sir Charles Cameron, who had analysed the powder, declared it to consist of nothing but wood ashes. The plant to which the first leaf belongs is a bush about 10 or 12 feet high, with a rough dark-green stem, and branches covered with brownish hair. Some of the trees have none of the peculiar bluish-green leaves, but only yellow-coloured ones. The donkeys of the expedition ate the leaves freely and with impunity. The trees were neither in flower nor in fruit when the expedition passed. The tree furnishing the second variety of leaf grew to a great height, its trunk being from 1 to 1½ feet in diameter. The leaves are mostly found on its upper branches. The tree from which No 3 leaf was taken is also one growing to a great height; its stem measures about 2 feet in diameter. It is to be hoped, continued the lecturer, that the next exploring expedition in these parts will furnish us not only with leaves, but with fruit and flower of the tree, when it may be possible to identify the plants. The "African Flora" has only been published up to the order of *Compositae*, and the plants evidently do not belong to that or any of its predecessors. All efforts to identify the antidotes, he was sorry to confess, had thus far been fruitless.

With regard to the poisons, the first bark, that of *Erythrophloeum guineense*, was the well-known sassa, or ordeal bark of Western Africa, specimens of which in the Society's museum Surgeon Parke immediately recognised. The effect of this poison upon the animal organism would undoubtedly be to relax the muscular action, and to render the heart's action slow and irregular. The large green leaf of No. 2 poison had been identified by Mr. C. B. Clark, of Kew. In the Kew gardens there was a specimen having slightly different leaves, but Schweinfurth in 1870 had reported that the same plant was used by the dwarfs. The plants of this order were known as diuretics, but not as poisons, and this ingredient was probably not an important one in the preparation of the arrow poison. With regard to the bark of the thorny creeper, it was smooth, and upon examination under the lens revealed large porous vessels. When chewed, it tasted slightly bitter. A stem closely resembling it was found in the Kew Herbarium, but that was tasteless. A specimen had been sent to Dr. Radelkofer, of Munich, who had declared it to belong to a *Combretum*, but could not identify it more closely. Two plants in the flora of tropical Africa closely resembled this creeper; they were described as natives of the Congo and Fernando Po. The species to which the plant belongs is known for its astringent properties and the yellow colouring-matter which it yields. Similar plants are found and their above-named properties made use of in British Guiana, and at the Colonial Exhibition Mr. Holmes obtained seeds from these. Dr. Passmore, who had examined them, ascertained

the presence of a glucoside, but could not discover any tannin or other alkaloid. The presence of the glucoside may account for the poisonous properties of the plant. The green stem, of which a specimen was shown, was undoubtedly a *Strychnos*. There were several African species of this genus, but only two had leaves of the large size of the one under observation, and these were known as a source of poisons used in the Gaboon region. A specimen in the Hanbury Herbarium was identified by Mr. Parke. The poisonous action of this plant, according to Heckel and Schlagdenhauffen, was due to strychnine and not to brucine, as had been supposed. The fact that all those wounded with the poisoned arrows died of tetanus confirmed the presence of strychnine in the poison. The seeds, so Mr. Parke was told by the natives, were also obtained from a very large tree. Mr. Jackson, of Kew, has identified them as belonging to *Tephrosia*, and as being identical with the fish-poison used by the natives, the action of which is due to strychnine. Strychnine, therefore, may be said to be present in at least two of the five ingredients. With regard to the antidotes, and leaving the wood ashes out of consideration, all that can be said with a probability of correctness is, that one of the leaves belongs to the *Unona* genus, the plants of which are stimulant and aromatic. But yet the leaf in question has little aroma; it is only slightly bitter, and in how far it would act as an efficient antidote to the poison is a question that cannot as yet be elucidated.

This remark concluded the paper, and Mr. Holmes sat down amid applause. It was now clear that the red ant-extract and the indiarubber-scum theories broached in Mr. Stanley's book had been abandoned, though there certainly appeared to remain a gaping hiatus between the meagre account given in the paper of the preparation of the poisons and the appearance of the red, clayey mass adhering to some of the arrow-points on the table.

At the invitation of the President,

Mr. A. W. GERRARD called attention to a poisoned arrow in his possession, brought over by Dr. Felkin some eight or nine years ago, and differing from the Pigmy arrows in almost every particular save in the lightness of its wood, which, however, was of a much paler colour. Dr. Felkin, whose first experience of African exploration was gained as a companion of Livingstone, told of the preparation of the poison among some of the tribes inhabiting the country between Zanzibar and the lakes; though the secret of its manufacture was handed down from father to son, each new compounder having to pass through certain ordeals and ceremonials before his initiation into the mystery of the plants from which poison was made, the traveller did not succeed in obtaining specimens, but it was known that an extract was prepared in sausage form, wrapped in leaves, made up with serpents' fangs, pounded ants, and other abominations, and with honey. The bark of the arrow is fixed in the shaft (which measures about 2½ feet) by means of a piece of animal muscle, which contracts in drying and holds the two parts welded with a tight grip. Above the socket the bark is wound round with strong black animal hair and the V-shaped point is secured to the wood with a strong fibre. The end of the dart is supplied with a treble feather to guide its flight. The object of having a detachable socket is to extract the dart from the wound, the dart being cut out after the death of the victim. Death follows a wound inflicted with the poison of the Wanika and Wakemba tribes in about ten minutes, but in the battles of these tribes medicine-men (non-combatants) are generally hidden among the trees to succour the wounded, and administer an antidote as soon as the victim by a shrill whistle gives the signal of distress. A specimen of a native poison-bowl, with some of the blackish extract adhering to it, was also shown. This extract has been examined, and found to contain a glucoside, probably of the strophanthin kind, as Dr. Fraser had found it to possess the characteristic strophanthin reactions. With regard to the paper of Messrs. Parke and Holmes, it was said that the victims died of tetanus, under symptoms indicative of strychnine-poisoning, yet the effects did not show themselves for some hours after the wounding. This seemed contrary to our knowledge of strychnine, which was known to act with great rapidity.

Mr. John Moss was not clear how the five poisons were mixed—whether pounded together in a mass or not, and

whether treated by decoction, evaporation, extraction, or what.

The PRESIDENT: They are pounded into a paste.

Mr. MOSS said that in that case its preparation differed from that of curare, the great South American arrow-poison, to the preparation of which he had given some attention about twelve years ago. Curare was an extract obtained from the evaporation of a decoction made from various barks, roots, &c. That, at least, was Waterton's view, who was the first to publish an account of the preparation of the substance. Planchon did not agree with Waterton in this respect. Curare may be taken internally with safety.

Inquiry was made whether the antidote was used externally or internally.

Mr. BOTTLE wanted to know whether the antidote was of an acid or an alkaline character. If it possessed any merit at all, it would probably be because the alkali of the antidote neutralised the acid of the poison.

The PRESIDENT thought the question really was whether the wood ashes might not correct the acid secretion. The African natives, unknown to themselves, were acting perhaps, upon the principles followed by some of the large patent-medicine manufacturers of civilised countries. When a physician was called in to a patient suffering from an overdose of such a patent medicine, a medical man was often quite at sea, and found that the recognised antidotes of some of the poisonous ingredients known to be present in the proprietary article did not act, simply because the manufacturer had mixed several antagonistic toxic ingredients in his remedy; for the same reason it might be two or more of the poisons used by the Pigmies were antagonistic in action, and thereby set at naught the ordinary knowledge of the effects of poisonous agents. The natives were not anxious to have their victims hanging about. What they wanted was to kill them off sharp.

Mr. HOLMES, in reply, stated that Mr. Parke had told him how different tribes used slightly different materials. The strychnine of the Gaboon was identical with the strychnine of Ouabain. There were several instances on record in which charcoal was habitually used as an antidote. In India and Ceylon charcoal was sometimes placed in wounds, effecting the same purpose as the sucking of a wound.

Upon the proposal of the President a hearty vote of thanks was given to Messrs. Parke and Holmes for their paper.

THE ADULTERATION OF CITRONELLA OIL

was the subject of the next paper, which was the work of Mr. J. Charles Umney. The author had set himself to investigate the cause of the difference observed in the colour of commercial samples of this oil, ranging from bright green to pale yellow. Mr. Umney secured eight samples of citronella, five of which were green, and three yellow. Seven of these samples had a specific gravity exceeding 0.890; one only was below 0.870. By treating 250 c.c. of each sample with dilute acid and ammonia he proved conclusively that the green colour of the oil was due to the same cause which accounted for the green coloration of cajuput oil—viz., the presence of copper. A further investigation showed that only one of the eight samples was free from copper, and that one was the only one of the three yellow oils of which the colour had remained constant, the other two yellow samples having meanwhile turned green. When treated with potassium ferrocyanide the green samples became pale yellow. Of the yellow oil one portion was exposed to sunlight and another to the heat of the water-bath without showing any change; but a third portion, when heated on the water-bath with the addition of a little copper, assumed a green colour. The specific gravity of the copper-free sample was much below that quoted by German authorities. The absence of copper was probably due to the fact that it had been distilled by natives using primitive iron or earthenware stills, and not by one of the more modern copper stills. The copper-free sample was adulterated with petroleum. The author claimed having settled any question which might still exist as to the proper colour of citronella oil by showing that it should be pale yellow.

Mr. CHARLES UMNEY considered it a matter of some importance that it had now been shown that the green colour assumed by citronella was not due to a natural process of oxidation, but to defective manufacture. This was the

more important because some oils—such as chamomile oil, which would turn from white to a fine deep blue—changed colour owing to natural causes. With regard to cajuput oil, the prejudice in favour of green oil was so great that white cajuput would often be rejected as suspect.

Mr. HOLMES called attention to the fact that the museum specimens of citronella had undergone no change in colour, and suggested that perhaps the method of manufacture might have changed.

The PRESIDENT thought the object of the petroleum admixture might be to preserve the essential oil by preventing oxidation, and might be made in perfectly good faith.

Mr. Holmes having been informed that the method of distilling had undergone no substantial change for many years, and the President's assumption of the existence of natives without guile in the matter of petroleum adulteration having been corrected by Mr. Umney, the proceedings closed with a vote of thanks to the author of the paper.

Pharmaceutical Society of Ireland.

THE monthly meeting of the Council was held on April 1 at No. 11 Harcourt Street, Dublin—the President, Mr. Charles Evans, in the chair. There were also present the Vice-President, Mr. Wells; Mr. Hodgson (treasurer); Messrs. T. W. Robinson, Shaw, Dr. Burnes, Hayes, Rankin, Boyd, and Professor Tichborne.

THE PRESIDENT WILL RESIGN.

The PRESIDENT said it was his intention to place his resignation of the office of President in the hands of the Council in the following month.

NEW MEMBER OF COUNCIL.

The first business on the agenda paper was the election of a member of the Council in the room of Mr. M. M. I. D'Arcy. On the motion of the Vice-President, seconded by Mr. Robinson, Mr. Joseph Stewart, of Limerick, was unanimously elected.

NEW MEMBER.

On the motion of Mr. Boyd, seconded by Mr. Robinson, Mr. Gerald L. Stack, of Listowel, was elected a member.

CORRESPONDENCE.

Letters were read from the Privy Council enclosing a copy of a letter from Dr. George Duffey, the visitor, in relation to the alteration lately made by the Council in the Preliminary examination and other matters connected therewith (the letter of Dr. Duffey was referred to the School Committee); from the Registrar of the General Medical Council stating that the decision of the question which the Council of the Society had referred to the General Medical Council as to the acceptance of the Society's Preliminary examination, lay entirely in the hands of the Irish branch of that body; and from Mr. H. G. Eaton, of Clonmel, expressing satisfaction that the Society was raising the standard of examination.

REGISTERED DRUGGISTS.

Reports from the Certificates Committee and from the Declarations Committee dealing with matters concerning the examinations of registered druggists were read and adopted. A report was also read from Dr. Whitla, who had held the first quarterly examination in Belfast of candidates for the licence to act as registered druggists under section 8 of the Pharmacy Act, 1875, Amendment Act, 1890. It stated that the candidates were, on the whole, good, and that the failures had chiefly been from very bad spelling and want of knowledge of weights and measures. Messrs. Gibson and Lyons were appointed visitors of the examination for druggists to be held in Belfast, and Messrs. Hayes and Boyd were appointed visitors for the Dublin examination. A form of certificate to be given to persons who pass the examinations for registered druggists was submitted. It was in the following terms:—"Examination for Registered Druggists. I hereby certify that Mr. — has passed the examination for Registered Druggists conducted by me on the — day of —, and is hereby qualified to sell the scheduled poisons. (Name of examiner.) (Name) Registrar Pharm. Soc. Ireland."

Mr. RANKIN said he thought the certificate should be headed "Pharmaceutical Society of Ireland."

The VICE-PRESIDENT: We are not bound to give the certificate at all. It is the examiner who gives it.

Mr. SHAW: But is not the examiner appointed by the Society and their paid servant?

The VICE-PRESIDENT: He is the paid servant of the Lord-Lieutenant. If we were to put the words "Pharmaceutical Society" on these certificates it would be very misleading. I think the certificate should say, "qualified to sell poisons, but not to dispense medical prescriptions."

Some accounts were ordered to be paid, and the Council adjourned.

Obituary.

ARCHER.—On March 14, Mr. Thomas Archer, pharmaceutical chemist, Southam, Warwickshire. Aged 65.

BROOKS.—On March 25, Mr. John Brooks, of Alston Temple Road, Dublin, after a very brief illness. Aged 65. Mr. Brooks was one of the oldest and most respected of the few remaining chemists and druggists who retained their right under the Act of 1875. He had been in business forty-four years, latterly as director of two of the leading business concerns in the city. He was also a member of the "Loan Fund Board of Ireland." He took an active part in the Chemists and Druggists Association, as honorary secretary; in the promotion of the Act of 1875; and he opposed the Pharmaceutical Society's attempt at legislation in 1888.

FILMER.—On April 3, 1891, suddenly, Mr. J. H. Filmer, chemist and druggist, James Street, Devonport. Aged 70 years. Mr. Filmer had been a member of the Plymouth Town Council, and at the time of his death occupied a seat on the Devonport Board of Commissions. He was much respected in the locality.

HALLAM.—On March 31, Mr. Francis Hallam, chemist and druggist, High Street, Burton-on-Trent. Aged 55.

MATTHEWS.—On March 16, Mr. Edward Matthews chemist and druggist, Aldersgate Street, London. Aged 42

MOHIDEEN SHERIFF.—On February 21, exactly a month after the death of Dr. E. J. Waring, the editor of the "Pharmacopœia of India," the editor of the Supplement to that volume, Dr. Mohideen Sheriff, Khan Bahadur, died of paralysis at Madras. This eminent Mahomedan was one of the few natives of India who have devoted their time and talents to original research connected with the pharmacology and therapeutics of Eastern materia medica. He was born in Madras in February 1827, educated in the old Jenkins School there, and received his professional training at the Madras Medical College, of which he subsequently became a graduate (G.M.M.C.), being granted a diploma and certificate. He entered the public service in 1848, and distinguished himself within a short period by his "Essay on Dysentery and Diarrhœa," which was regarded by the medical board as a highly creditable production, and for which he was granted the Government prize medal in 1854. Four years later he was promoted to the grade of native surgeon, and attached to the Triplicane Dispensary, being then engaged under orders of Government, and without prejudice to his duties, in the preparation of a supplement to the "Pharmacopœia of India," which occupied him 4½ years. He next obtained the rank of assistant-surgeon in January 1870, having received a commission from Her Majesty the month before. His services were again utilised for about two years, from 1875 to 1877, under orders from the Secretary of State, for forming a collection of native drugs in the presidency for the museum of Royal Victoria Hospital, Netley, which collection he made, and forwarded to Government, with a "Medical Herbarium." In recognition of these services he received the "highest approval" and thanks of the Government, and was granted a medal by the Prince of Wales. In February, 1874, he was granted the local rank of honorary surgeon, and in the same year was elected a fellow of the Madras University, and in 1878 his name appeared in

the list of new-year honours, receiving the title of "Khan Bahadur." He was again engaged under the orders of the Government of India, to assist in the International Exhibition at Calcutta of 1883-84, and sent in a collection of nearly 1,000 indigenous drugs, scientifically arranged, together with another consisting of 50 varieties of paddy and rice from the presidency. For this he was awarded a medal. Later on he undertook, at the request of the local government, to revise the vernacular synonyms of all the drugs peculiar to Southern India, and for the "Dictionary of Economic Products."

"In 1888," writes Mr. D. Hooper, of Ootacamund, to us, "while on a visit to Madras, I had the pleasure of calling upon Dr. M. Sheriff, at his house at Royapetta, opposite the Triplicane Dispensary, and was received with every mark of native politeness and respect. The table in the verandah was strewn with proofs of his recent work on the 'Materia Medica of Southern India,' which, unfortunately, has not been completed on account of illness. A large basket of the seeds of *Butea frondosa* and another of *Neem* leaves were waiting to be made into preparations for the use of his patients at the dispensary. The doctor had a long, perfectly white beard, small penetrating eyes, a high forehead, and a calm expression of countenance. During the interview he informed me that his work at the dispensary occupied him from 7 or 8 in the morning to 11 o'clock, then he had patients to visit after his noonday meal, and a few hours in the evening he devoted to his 'Materia Medica.' He had a large practice, and was often visited by native princes; but he was held in great esteem by the poor around him, for whom he had the greatest sympathy, and would never seek pecuniary remuneration. He said that while a student at the Medical College the subject of materia medica he cared for less than any of his other studies, but during the compilation of the 'Indian Pharmacopœia' he saw the need of accurate investigation in this department of medicine, and entered into it with a heartiness that remained with him to the last. He was constantly experimenting with native drugs, and was in the habit of accurately recording all the effects produced by their administration in small and large doses. These results of many years were being printed at the time of his death, and the first volume, containing observations on 330 drugs, is unfinished. It was not only in the wide field of materia medica that Dr. Mohideen Sheriff distinguished himself, but in surgery and midwifery he was eminently skilful. He was interested in municipal affairs, and was commissioner for the city of Madras for sixteen or seventeen years. He was governor of the Victoria Caste and Gosha Hospital, and a member of the Technical Institute Committee. He was vice-president of the Central Mahomedan Association, and there was no movement among the Mussulman community for the past quarter of a century with which the doctor had not been prominently connected, so much so that Government, of late years, always consulted him on matters bearing on the usage or social and religious customs of his co-religionists. The inhabitants of Madras propose to establish a memorial to their accomplished citizen, and while the fund is being raised they are deliberating whether it shall take the form of a scholarship in the local hospital, the erection of a ward bearing his name in the hospital, or a prize to the student who distinguishes himself in materia medica."

NORWOOD.—On March 17, Mr. Thomas Norwood, pharmaceutical chemist, Wellington Place, Hastings. Aged 77.

RAIMES.—We regret to hear of the death of Mr. Richard Raimes, senior partner of the firm of Raimes, Clark & Co., Leith Walk, Edinburgh. Mr. Raimes was the son of the late Mr. Richard Raimes, the founder of the firm, a Yorkshireman, who was well known to the trade in the North. Young Mr. Raimes took an active part in the management of the firm for some years before his father's death, and afterwards he, with Mr. Richard Clark and two old servants of the firm, continued the business in its present form. He was, however, not a strong man, and at his death had practically withdrawn from active participation in business. Mr. Raimes, who was married two years ago, was under 40, and was a genial, kind-hearted gentleman. He seldom took any active part in pharmaceutical affairs, but as a leading Conservative occasionally appeared on public platforms.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THIS section of the Society held its closing meeting for the session on Friday night, under the presidency of Dr. BOWMAN.

Mr. Wm. Thomson read a paper on "Effluent-water Analysis," and a note on

A METHOD OF CUTTING GLASS TUBES, BOTTLES, &c.

In the latter he illustrated a method of cutting glass, described a few years ago in one of the periodicals, which he has tried and found very satisfactory. The method, he said, appeared not to have been noticed by many, and he brought it forward as one which might be useful in the laboratory in such an operation as the dividing of a bottle neatly into two parts, either of which it might be desired to use for a special purpose. A large gas-jar, Winchester quart, or other bottle, might be so divided or neatly cut round in a few minutes. He had also found it useful for cutting the tops off beakers when the edge has been broken, and for cutting tubes of from three-quarters to two or three inches diameter. The method consists in having some strips of thick blotting-paper at hand from a quarter to half-an-inch in width, and of different lengths. Two pieces of such paper are wetted and wrapped round the bottle, tube, or other vessel to be cut, once or oftener (once is sufficient). These pieces of paper, cut true, are wrapped round the vessel like two bands. They must not be placed too closely together—say from a quarter to three-eighths of an inch apart for larger vessels, and rather less than a quarter of an inch apart for tubes of an inch or so in diameter. When this is arranged a fine flame about two or three inches long is allowed to play on the glass between the two pieces of wet paper, the vessel being slowly revolved and the point of the flame kept between the two papers. Within a minute usually the vessel separates with a clean cut along the line against which the flame played. The blotting-paper can then be removed and put aside for use on other occasions.

Mr. G. H. Bailey and Mr. J. C. Cain submitted a paper entitled

A SIMPLE AND RAPID METHOD OF GRAVIMETRIC ANALYSIS.

The method, they said, was practically that by which the specific gravity of a solid would be taken by means of weighing in a state of suspension in liquid. Although frequently applied to such determinations, they were not aware that it



FIG. 1.

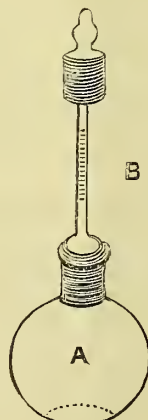


FIG. 2.

had been made use of for ascertaining the actual weight of a precipitate directly and without separation from the fluid in which it was suspended. A description was given of the apparatus, and it was explained that an ordinary specific-

gravity bottle might be used for the determinations, or even a 100 c.c. flask. Indeed, the first part of their work was carried out with such a flask. The former, however, had its inconveniences, and the latter was too wide in the neck to admit of sufficiently accurate measurement. They therefore constructed a form of flask and fittings thereto which should overcome these difficulties. The 100 c.c. flask was made in two parts, as shown in Figure 1, the neck being in a separate piece and accurately ground into the body of the flask. It was desirable, indeed, to make the neck almost capillary for the purposes of accurate reading, whilst it was necessary to facilitate the introduction of the liquid (and suspended matter) into the flask, since it would have been a tedious process to pour it through the capillary neck. With the arrangement shown in Figure 2 it was easy first to fill the flask (A) with the liquid and precipitate, and then fit in the capillary neck (B), and add a little more liquid, until a given mark on the stem was reached. The stem was furnished with graduations in millimetres. These served not only to adjust accurately 100 c.c. of liquid at 4° C, but also (the capacity of the stem being once for all determined) enabled them to get rid of the troublesome cooling (or warming) process used in specific gravity determinations where all weighings were made with the liquid at a given temperature. For instance, if the liquid at 4° C. (point of maximum density for water) stood at division 6 for 100 c.c. liquid, and at 10° C. it stood at division 9, it was evident that when working at 10° C. the flask must be filled up to division 9 to represent 100 c.c. of liquid at the point of maximum density of water. The small corrections for unequal expansion at different temperatures, or for the liquid not being pure water, were negligible. In order to further facilitate the introduction of the liquid containing the precipitate into the body of the flask, especially as 150 or 200 c.c. of clear supernatant liquor had to be decanted off for another purpose, the cup-shaped vessel (C), also ground so as to fit into the flask, was used. The following was the method of working:—First, the specific gravity of the substance precipitated was carefully determined by ascertaining (a) weight of flask and air, and then deducting from this the weight of 100 c.c. of air; (b) weight of flask and 100 c.c. of water at 4° C.; (c) weight of flask filled to 100 c.c. mark with water and the substance whose specific gravity was to be determined. The following values were obtained:—

Silver chloride precipitated in the hot ..	5.298
" " " cold ..	5.287
Copper oxide " " hot ..	6.514
Ferric hydrate " " " ..	2.583
Barium sulphate " " " ..	4.651
" " " cold ..	4.612

Each of these values was the mean of several determinations which closely agreed amongst themselves. It would be seen that, as might be expected, the density of the product varied somewhat according to the circumstances under which the precipitation was effected. The determinations made in the hot were boiled for some time, as in the ordinary course of analysis, and the values were practically uninfluenced by prolonging the period of boiling, or by the state of dilution when the precipitation was carried out, at any rate within such limits as occurred in actual practice. In order, however, to make use of these numbers in the inverse manner for ascertaining the weight of a given precipitate, it was not necessary to replace the supernatant liquor by water, for, by using two similar flasks, 100 c.c. of the clear supernatant liquor might be run off into one flask, leaving the precipitate and supernatant liquor occupying 100 c.c. in the other flask. Some of the supernatant liquid might also be transferred to a small wash-bottle for convenience of washing down any precipitate which remained attached to the sides of the cup-shaped vessel. The actual determination of the weight of the precipitate (W) now took this form:—

$$W = \frac{(w' - w) \sqrt{s}}{\sqrt{s} - w}$$

Where

- w' = weight of supernatant liquid and precipitate.
 w = " " known volume (say 100 c.c.) liquid.
 s = specific gravity of precipitate.
 v = volume of the flask (say 100 c.c.).

As an instance of the weighings to be made, they gave the following numbers, obtained in determining the amount of chlorine (as silver chloride) in a solution of common salt:—

Flask and liquid with silver chloride	123·551
Flask only (determined once for all)	20·972

w' = 102·579

Flask and liquid	122·341
Flask only (determined once for all)	21·724

w = 100·617

$$w = \frac{1·962 \times 529·8}{529·8 - 100·617} = 2·422 \text{ grammes}$$

Two weighings only were therefore required. The following numbers obtained by this method would show the extent of the variation which might be expected in practice. The silver chloride determined gravimetrically was found to be 2·422 grammes. Experiment 1 gave 2·422 grammes; experiment 2 gave 2·426 grammes; experiment 3 gave 2·420 grammes; experiment 4 gave 2·424 grammes. That was to say, the error in a chlorine determination, taking the value which showed the greatest divergence, would amount to less than one-twentieth per cent. It was not, of course, contended that the method was to be preferred to the ordinary gravimetric determination on the score of accuracy, but it effected a saving of time where a number of similar determinations had to be made from day to day, and where the amount of material was sufficient to yield a precipitate of two or three grammes. As a matter of fact, a determination might be made, after the precipitation had been effected, in half an hour, and a dozen similar determinations done simultaneously in a dozen flasks would occupy very little more additional time than that required to make the necessary weighings. Of course the analysis of a substance involving several determinations—such as the iron, copper, and sulphur in a cupreous pyrites—could be made quite as readily. A determination of iron and sulphuric acid in a solution of ferrous ammonium sulphate gave the following results:—

		Found		Calculated
Fe	·8642	·8333
SO ₄	2·783	2·758

The following observations had suggested themselves in the course of working out the details of this method of analysis:—(1) Where the precipitate formed a double salt with any of the substances existing along with it in the solution, regard must be paid to this (as it must also in the gravimetric method) and precautions taken. Some soluble salts (the alkalies, for instance, by barium sulphate) were readily carried down with the precipitate where the solution was a concentrated one, and must be washed out with hot water. It was best, however, to precipitate with the precautions usually observed, using dilute solutions. (2) The method could only be recommended where a sufficiently large quantity of precipitate was obtainable—say 2 grammes. Of course it was possible to work with small quantities, but then the experimental error became large, unless greater care was exercised than was to be expected in routine determinations. (3) For determinations where the precipitate could not be washed free from the other liquor without loss, this method might be recommended as preferable to the gravimetric method. Such were the determinations of fluorides, borates, phosphates, and several of the more troublesome sulphides. In the latter case the precipitation could be effected by passing the sulphuretted hydrogen directly into the flask, and thus all fear of alteration by oxidation, &c., was avoided.

LIQUID BRONZE.—Stroschein, a Berlin patentee, makes this by treating Dammar resin with about one-third of its weight of carbonate of potassium, stirring for about three days and then finely powdering the resinous mass. Next it is scattered in thin layers on hurdles, exposed to a temperature of about 50° C., and left for several months. The resin is then dissolved in benzine or another distillate of naphtha under a boiling-point of 150° C., after dry ammonia gas has been led through the solvent. The bronze-powder remains suspended in this varnish. Articles bronzed with it are said to retain for years together the original fresh metallic lustre.

PHARMACEUTICAL AFFAIRS IN AUSTRALIA.

(From our Correspondent).

MELBOURNE, March 2, 1891.

SINCE my letter on December 1 little that is very startling has transpired in Australasia. Perhaps the event of greatest importance is the

CONFIRMATION OF THE REGULATIONS OF THE PHARMACY BOARD OF NEW SOUTH WALES.

When the Sale and Use of Poisons Act of that colony was passed, in 1876, the Legislature gave the administration of the Act, and thus the control of pharmacy, to a Pharmacy Board, composed of the President of the New South Wales Medical Board, the Medical Adviser of the Government (these being in effect Government nominees), and the Council of the Pharmaceutical Society of New South Wales. This was a curious arrangement, as the Society had only just been formed, was purely voluntary, and was not incorporated; in fact, up to the present day it has no legal existence. At that time the Council of the Society was composed of seven members, so that the Government had two-ninths of the representation. About two years ago, after a good deal of rather heated debate, the number of the Council was increased to eleven; thus, at one stroke, and without the knowledge of the Government, increasing the number of the Pharmacy Board from nine to thirteen.

The Sale and Use of Poisons Act enjoined the Board to make, without delay, regulations—

1. For keeping up the register of chemists and druggists;
2. For appointing the fees to be charged for examinations;
3. "And the mode of conducting the same,
4. "And before whom;
5. "And the subjects for examination, which shall not extend beyond matters immediately connected with the business of a chemist and druggist;
6. "And for the registration of chemists and druggists, and of any other certified dealers in poisons,

"all which regulations shall be submitted to the Governor and Executive Council for approval or alteration, and shall, when confirmed, be published in the *Gazette*;" then, and only then, acquiring the force of law.

The original Board seems never to have paid much regard to the Act, but went quietly on in its own way, at its own sweet will. Regulations were made about the fees, the examiners, and the examinations, but they were never submitted to the Governor and Executive Council. A practice grew up of placing on the roll of "registered chemist" any person who was a member of the Pharmaceutical Society, and the latest register shows that nearly half the men thereon have been registered on this qualification. Chemists and druggists of Great Britain were registered, although the Act only admits pharmaceutical chemists duly admitted by the Pharmaceutical Society of Great Britain, and members or licentiates of the Apothecaries' Halls of London or Dublin (*sic*). Men who were qualified in the other colonies, though not in New South Wales, were also registered, and this last arrangement finally brought matters to a crisis. In all the cases just mentioned the Board had been going beyond its power.

The awakening came in a curious way. A storekeeper (general shopkeeper) of Augathella, Queensland, a township in the far west, 407 miles from Brisbane, applied to the New South Wales Board for registration, or for a licence to sell poisons—I am not sure which. By some temporary inadvertence his application was granted. The settled policy of the New South Wales Board was to register *chemists* from Queensland, but it had never contemplated granting poison licences to storekeepers in that colony, where, indeed, they are not required. Having got his New South Wales licence to sell poisons, the storekeeper applied, on the strength of it, to the Queensland Pharmacy Board to be registered as a chemist. When the Board came to investigate his credentials they were a little surprised, and were led to investigate the New South Wales Act, to see under what clause a Queensland man could get a New South Wales licence. Their investigation led them further than they expected, till they discovered that the New South Wales Board, no doubt

in perfect good faith, but with regrettable laxity, had been granting certificates that had no legal effect, without any proper regulations, and that, in continuing to recognise them, the Queensland Board would be liable to fall into the same error. When New South Wales had first offered to recognise her certificates, Queensland had reciprocated by making a regulation, under her Act, recognising the certificates of membership of the Pharmaceutical Society of New South Wales. On discovering the state of things outlined, the Queensland Board recommended the Government to rescind the regulation. Naturally, this touched the susceptibilities of New South Wales; there had recently been a great change in the *personnel* of the Pharmacy Board, and, after indulging in a quite pardonable amount of warm language, the Board set themselves to repair the mistakes of their predecessors, and submitted to the Governor and Executive Council a set of regulations. These are not so comprehensive and systematic as they might be, but they answer the purpose for the present. But the Government for a long time delayed its confirmation. To the surprise of some—for reasons that will shortly appear—the Crown law officers approved of the regulations, and the delay was inexplicable, till it was discovered that their acceptance was blocked by the Minister of Education. That gentleman, either from a special fancy of his own, or instigated by the officers under him, set up a theory that the Pharmacy Board should be persuaded, or induced, or coerced into recognising as qualifications for registration the certificates in pharmacy of a technical college which was under the control of his department. It was much the same as if the Privy Council were to direct the Pharmaceutical Council of Great Britain to register certificates of having passed examinations, not at one of the recognised private schools of pharmacy, but of some amateurish institution affiliated with the Science and Art department. This, of course, could not be conceded, and so the matter dragged on for about two years, till the Minister tiring of the subject or forgetting the point, the regulations have now been approved, and were gazetted on January 23. They deal more or less completely with all the points enumerated above except the first; but these points need no comment. What is extraordinary is a regulation giving the Board power to register as a chemist and druggist any *bonâ fide* member of the Pharmaceutical Society. This gives the Society very great control over the administration of the Act and the admission of new chemists. The only limit to its power is that the standard of the Board's examinations is fixed, and if the Society raises its requirements above that standard applicants will go to the Board in preference to the Society. But there is no limit downwards or sideways. The Board by the law is bound to require that candidates for the examination must have been apprenticed in the colony. The Society is not bound to require any apprenticeship at all, though, as a matter of fact, it is fully determined to uphold the standard, and the only relaxation that it makes is to omit the geographical limit, and accept apprenticeship anywhere. The Board cannot legally register the British Minor certificate; the Pharmaceutical Society can accept it as a qualification for membership. The Board has no power to recognise the certificates of any other colony or country; the Pharmaceutical Society has no restriction in this matter. By this one stroke the operation of the Sale and Use of Poisons Act is freed from its narrow provincial bonds—bonds which were no hardship fifteen years ago, though they have now become opposed to the federal spirit of the time; and the pharmaceutical authorities of New South Wales are placed at once on a level with, if not above, those of other colonies in the matter of freedom and power.

It was the acceptance of this regulation by the Crown law officers which was a matter of surprise to some people; but in the result the Pharmaceutical Society deserves warm congratulations.

THE GIBSON CASE,

which has, I see, been mentioned in your columns, and commented on rather unfavourably, has been incidentally referred to above. In that case a young man, who had not secured qualification before he left home, came to New South Wales, secured the management of a branch business, and then applied to the Pharmacy Board of New South Wales for registration. He had been apprenticed in the

old country, but not here. The Board could only register him after he had passed the examinations; before he could enter them he must show that he had been apprenticed in the colony, and this he could not do. The matter was discussed before the Board several times, and finally, by a very narrow majority, it was decided that his English apprenticeship could not be accepted, and he must be apprenticed for three years in the colony before he could be examined. This, in itself, is no great hardship. I could name at least two young men who found themselves in a similar position, and quietly apprenticed themselves to chemists out here. It simply means that they entered into a three-years' agreement, drawing a salary about the same as is usually paid to unqualified men. In view of the difference of opinion in the matter, the Pharmacy Board submitted the case to the Crown solicitor, who replied emphatically that the Board had *no power* to recognise the English apprenticeship, thus fully justifying the Board in their refusal.

But the new regulation referred to above simplifies matters. The Pharmaceutical Society will probably raise no objection to Mr. Gibson's English apprenticeship; he will have to pass the usual examinations, will then apply for membership, and, when admitted, can obtain registration from the Board, when he will be a full-fledged chemist.

A CAUTION TO EMIGRATING PHARMACISTS.

This case suggests a word of caution to pharmacists who wish to come to Australia. First of all, they should get registered at home. There is very little opening out here for unqualified assistants, and those who come often meet with considerable hardship. In every colony, except South Australia, and in all probability there also within the next few months, the only avenues to registration are the British or Irish certificates, or the examinations of the local boards, with varying regulations as to apprenticeship in the colony or elsewhere, curriculum, and so on. For qualified assistants there is a limited fluctuating demand. I have rarely known a steady, qualified man to remain out of employment many weeks, though often there is some time of waiting before an opening appears. The demand, however, is very limited, and a shipment of half-a-dozen Minors might glut the market for three months or more. The statistics seem to show that the number of pharmacists is increasing more rapidly than the population.

POISONS LEGISLATION IN SOUTH AUSTRALIA.

A curiosity of legislation is the Sale of Food and Drugs Act mentioned in my last letter. Section 7 is an innovation, I fancy, in Food and Drugs Acts, and is a very elastic provision. I copy it verbatim:—

Food and Drugs Act Amendment Act, 1890, Section 7.—Antidotes to be published and printed on label. 7. Within six months from the passing hereof the Governor may issue a proclamation in the *Government Gazette*, setting forth the antidote or antidotes (if any are known) to all such poisons as may be considered advisable, together with the dose, application, and mode of administering such antidote or antidotes. No poison, concerning which any such proclamation shall have been issued, shall, after the expiration of six months from the date hereof, be sold, unless the label affixed to, or a wrapper containing, such poison shall have clearly and distinctly printed thereon the name of the antidote or antidotes, and other particulars contained in such proclamation. Any person who shall fail to comply with the provisions of this Act shall be liable to a penalty of not more than ten pounds, to be recovered in the manner provided by Clause 22 of Act No. 257 of 1832.

We shall look with interest for the publication of the official list of antidotes. The Poisons Act of South Australia was passed in 1860, but its provisions are not very strict, and this is a useful addition to it. The number of poisons scheduled in 1860 was but small, with no machinery for adding to the list; but this new provision seems to give the Government power to add to the list as much as it likes.

KOCH'S LIQUID A SCHEDULED POISON.

Talking of poisons reminds me that at a meeting of medical practitioners in Melbourne, the other day, it was resolved *nem. con.* to request the Pharmacy Board of Victoria to recommend the Government to add Koch's liquid to the list of scheduled poisons, which can only be dealt in by chemists, doctors, and—though this was not mentioned—storekeepers licensed to sell poisons. Doctors who have

been "to Berlin," and have secured the marvellous fluid, are now returning to Australia by almost every steamer, and the hopes and fears, suspense and anxieties of countless consumptives and their friends will be intensified. But the resolution referred to seems almost farcical. Even if the liquid is declared a poison, there is no penalty on administering it and charging for the administration—not for the fluid.

A CURIOUS MOVE.

The South Australian Society has taken a step which has exposed them to a volley of newspaper correspondence, which has led the officials to "climb down" a little. There has been much stir in the law courts and the newspapers of the province about quackery and unqualified practice. During the previous year or two members of the Society, without formally resigning, had dropped paying their subscriptions, though in some cases, I grieve to say, still accepting the advantages the Society provides for them. Among those who had dropped out was an ex-president, a pharmaceutical chemist of Great Britain. There is no Pharmacy Act in the province, and consequently no legal register, and no such thing in the eye of the law as a legally "registered pharmaceutical chemist." But the Council of the Society prepared two lists—one of its own members who had paid up their subscriptions on December 31, 1890, and the other of legally registered medical practitioners. The list of members was sent to all the doctors, and the list of doctors to all the chemists. The latter list was headed: "The following is a list of all registered qualified medical practitioners in South Australia, as supplied to us." The other for the doctors was headed: "We have much pleasure in furnishing you with our list of registered pharmaceutical chemists to the above date, who as a body earnestly desire to see the rising students in pharmacy pass with credit and satisfaction the several examinations required by the rules and regulations of this institution—the Pharmaceutical Society of South Australia, Incorporated." "Our list of registered pharmaceutical chemists." Whew! coming on the top of all this agitation about quackery! "And my name not in it!" A whole row of notes of admiration would not express the feelings of those men who, if they had only paid their annual guineas when they ought, might have been on the list. I have before me a string of letters to the papers more than a yard long. Certainly the Pharmaceutical Society has been well advertised, and the subscription peccant members have had an unexpected shock. And though the president explained soon after to a "special reporter" that the list was sent out for the purpose of letting medical men see what progress the Society was making, without any intention of implying that those whose names were not on the list were incapable; that the list only included those chemists and druggists who belong to the Society and are fully paid up, while it would be unfair to include other names, thereby misleading the medical men as to the strength of the Society, yet I must confess I should in this case prefer a brief for the outsiders to one for the Council.

Trade Notes.

TENDERS for disinfectants are invited in this issue by the Portsmouth Urban Sanitary Authority.

MR. GEORGE BOYCE, chemist, of Chertsey, has secured the tender for the supply of drugs to the Union of that place for the ensuing contract period.

MESSRS. G. TREBLE & Co. are to fit up Mr. A. J. Watson's new premises at Hampstead. Messrs. Treble tell us that they were put on the track of this order by the personal note which appeared in THE CHEMIST AND DRUGGIST of March 28.

WE have been requested by Messrs. W. J. Bush & Co., of Artillery Lane, Bishopsgate, to state there is no foundation whatever for the rumours lately circulated that it is their intention to convert their business into a limited liability company.



circumstances. Applicant, who resides at Slindon, is interested in a dog-poisoning case, and was searching for evidence against a suspected party. He had spent a good deal of money on the case, and had sent the dog's body to London for post-mortem examination. He applied to Superintendent Puttock for information as to how he was to proceed, and applicant was informed that he would have to see to the matter himself. He went into the first chemist's shop he came to in Arundel that day, and explained his business, asking to be allowed to see the "poison" register. The chemist was very courteous and polite, but told him that he could not show him the register. He (applicant) believed he had no right to search the register. Superintendent Puttock said he thought, when advising Colonel Woodward, that no chemist would object to his looking at the register. Applicant further stated that he wished to complete the case, but it seemed to him that he was powerless to do anything, and the police were powerless to do anything.

The magistrates advised applicant to take out a summons, and if the production of the register was found to be necessary, it would be ordered.

SAXLEHENER v. THE APOLLINARIS COMPANY.

IN the Chancery Division of the High Court of Justice, on Tuesday, April 7, Mr. Justice Romer had before him a motion, on behalf of the representatives of Andreas Saxlehener, for an injunction to restrain the defendant company from selling, invoicing, offering, or advertising for sale the plaintiff's Hunyadi Janos waters under any other name than that of "Hunyadi Janos waters."

Sir Horace Davey, Q.C., Mr. Fletcher Moulton, Q.C., and Mr. Grosvenor Woods appeared for the plaintiffs; Mr. Rigby, Q.C., Mr. Neville, Q.C., and Mr. Tucker represented the defendant company.

Sir Horace Davey, Q.C., in opening the case, said this was a motion on the part of the plaintiff to restrain the Apollinaris Company from selling, invoicing, offering, or advertising for sale the celebrated Hunyadi Janos water under any other mark than that of "Hunyadi Janos." It was not strictly accurate to say that he appeared for the plaintiff, as the plaintiff died eight days after the notice of motion, and the widow (his personal representative) was carrying on the proceedings. The case was one of great simplicity, but one of great importance. The plaintiff and her deceased husband were the proprietors of an estate near Buda-Pesth. Near that estate were valuable springs of bitter water, which had been proved to have great medicinal virtues. Years ago the name "Hunyadi" was attached to this water, and under that name the water had acquired great celebrity, its medicinal properties being very much appreciated, not only on the continent of Europe and in the British dominions, but in the United States and all over the world. An agreement was entered into in 1876, by which Mr. Saxlehener granted to the Apollinaris Company the exclusive right of selling Hunyadi Janos water for a term of years, which term was subsequently extended by a supplementary agreement, and would not expire until the end of the present century. At the time that agreement was entered into Hunyadi Janos water was well-known in this country. It had been dis-

covered that recently the Apollinaris Company had taken it into their heads to acquire for themselves all the reputation that Hunyadi Janos waters enjoyed. By a series of devices, creeping on from one step to another, they had been endeavouring to alter the name of the water, and they now sold it and invoiced it under the name of "Hungarian aperient water." The question was whether they could do this consistently with their agreement. Admittedly the object of calling it "Hungarian aperient water, diamond mark," and putting on it a great yellow label with a red diamond on it, was to get the water known in the market as the Apollinaris Company's diamond water. The Apollinaris Company had the exclusive sale of the plaintiff's water in this country, in the United States, and throughout the British Empire—in fact, everywhere except the continent of Europe—and, if they were allowed to do what they were doing, when their agreement for exclusive sale came to an end, and Mr. Saxlehener's representatives would resume the sale on their own account, the Apollinaris Company would be in possession of the field, and the name would have been dropped (as it was gradually being dropped), and they would be able to command the market with their diamond water. The defendant company would get some other Hungarian bitter water, which might or might not be equal in medicinal value to Hunyadi Janos water, and would monopolise the reputation which was at present attached to plaintiff's water, because people would no longer ask for it under the name of "Hunyadi Janos" but under the name of "Diamond," or some such name. There was evidence that the Apollinaris Company had already commenced the purchase of some other estate in Hungary—a water which might or might not be as good as Hunyadi Janos. He gathered that his learned friends would say there was nothing expressed in the agreement to prevent that. That might be so, but it seemed to him to be a diversion of the real issue, the question being whether there was anything in the agreement which entitled them to appropriate to themselves—not to use any stronger word—the whole reputation and goodwill which was attached to the sale of the plaintiff's very valuable water.

Mr. Justice Romer: It must all turn on the agreement.

Sir Horace Davey admitted that was so to an extent. But the agreement, he said, must be construed as a business document. He submitted that the agreement meant that the defendant company was to sell the plaintiff's water as Hunyadi Janos, and that they must not sell it in such a form as to enable them to appropriate to themselves all its reputation. The original agreement was dated February 14, 1876, and by it Mr. Saxlehener granted to the Apollinaris Company the exclusive sale of his natural Hunyadi Janos water for Great Britain, its colonies and possessions, as well as for all transmarine countries and places, with the exception of Smyrna, for the term of ten years. The company bound itself to take at least 100,000 whole or 1,500,000 half or whole bottles, provided the order was given in a definite form. The contract was extended from December 31, 1885, for a further period of fifteen years. The plaintiff's label had three divisions: one red, which contained the name of the hero and the name of the water; then another division, containing the testimonials of many eminent medical gentlemen; and the third division gave an account of the medicinal properties of the water. Upon the top of the bottle were words showing that the Apollinaris Company, London, were the importers. What the defendant company had recently done was to put on a yellow label with a red diamond in the centre, which they called their trade-mark of selection, and they described themselves as the sole importers. If that were all, probably it would not do much harm, but they had by subtle devices and a clever series of advertisements crept on until, if anyone ordered from them Hunyadi Janos water, they invoiced not Hunyadi Janos water, but Hungarian aperient water, diamond mark. As the witnesses said in their affidavits, that entirely destroyed the reputation of the Hunyadi Janos water, for no one would now believe that they got the Hunyadi Janos water unless it bore the diamond mark. At the end of the term many people would refuse to buy the Hunyadi waters, as they would not believe they were genuine without the diamond mark. The defendant company first tried this on in the colonies. On February 17, 1889, a letter was addressed to a trade journal in New Zealand, in which

they said they had adopted an additional mark of their own, consisting of a red diamond on a yellow ground, and they would be much obliged if in future they would describe the water in their market quotations as Hungarian aperient water, diamond brand. Similar announcements were advertised in London and other papers throughout England; and in THE CHEMIST AND DRUGGIST—a paper which circulated amongst the trade, and was addressed to the customers of this company—on December 9, 1888, appeared the statement that the best natural aperient, the Apollinaris Company begged to announce, was the Hungarian aperient water, offered to the public with marks similar to those so long employed by them, but that they had now adopted an additional label of their own, and registered it as a trade-mark. Without reading all the advertisements, or going through the whole of the details, he might say that the water had been invoiced as Hungarian aperient water, diamond brand, and not as Hunyadi Janos. That was shown by two exhibits, from a Mr. Barclay and a Mr. McAdam. The affidavit of Mr. Louis Jacob, agent in this country of Mrs. Saxlehener, stated that the conduct of the defendant company was calculated to injure, even if it did not destroy, the sale of the plaintiff's Hungarian waters in this country, and that such conduct had already cast great doubt upon the genuineness of the Hunyadi Janos water.

The learned counsel then read a number of affidavits by eminent London chemists and druggists to the same effect as that of Mr. Jacob, and submitted that what the defendants were doing was a direct breach of their contract, the object of which was to give the Apollinaris Company the exclusive sale of this article as what it was, and not as something else. The company were perfectly candid. They told the plaintiff that what they were doing was this: they had bought some land near Hunyadi Janos, which might or might not have bitter water in it as good as the plaintiff's, and the moment they could get rid of this contract they could go on supplying Hungarian aperient water, diamond mark, only instead of supplying it from Hunyadi Janos they would supply it from their own springs. He submitted that it was for those who were taking this course, and with this avowed object, to show that there was something in the contract that enabled them to do it. The defendant company said that Mr. Saxlehener committed breaches of this contract. Even if that were true, he did not see that that would be any defence, and the courts were open to them for alleging these breaches; but the plaintiff denied that, with one exception, any breach of the agreement had been established against Mr. Saxlehener or his representatives. That exception was of this nature: there was an adjoining valley, called the Arpad, also belonging to Mr. Saxlehener, which contained somewhat similar water. Mr. Saxlehener conceived, and was advised, that he was entitled to sell his Arpad water as Arpad water, and not as Hunyadi Janos water; but the Vienna courts decided that he was not so entitled, having regard to his contract with the Apollinaris Company, and he had honestly abided by the decree, and ceased to sell the Arpad water within the company's district.

Mr. Moulton, Q.C., followed on the same side, contending that this was a matter for an interlocutory injunction, because, if his clients had any rights, the damage done by the defendant company increased every day. There could, he said, be no harm done to the defendant company by the relief asked for, because they had no competitors. An additional reason for making the defendant company sell the water by the name it bore, and with the labels sent out by the manufacturers, was that the trial might be delayed a very long time.

Mr. Justice Romer, without calling upon counsel for the defendant company, held that it was not a case in which he ought to grant an interlocutory injunction. What the defendants were doing was, shortly speaking, this: they were selling water in bottles with labels which did describe the water as Hunyadi Janos water, but they were also advertising it in sundry ways, and invoicing it as a natural aperient water, diamond brand. He ought not to grant an interlocutory injunction unless he was satisfied that the balance of probability was in favour of the plaintiff succeeding at the trial. As he was not satisfied of that, and did not wish to prejudice unnecessarily the plaintiff in case the action came to trial, and as, if the plaintiff succeeded at the trial, he

would be amply compensated by damages for any injury caused to him by what the defendants were doing between now and then, he must refuse to grant any injunction. As the question involved in the motion was the question involved on the trial, he should make no order on the motion except that the costs of the motion be costs in the action.

BANKRUPTCY REPORTS.

Re WILLIAM WEEDING, West Cowes, I.W., Chemist.

THIS debtor, through Mr. Hooper, solicitor, applied to his Honour Judge Leonard for his discharge at the Isle of Wight Bankruptcy Court last week. Mr. Hooper stated that the debtor had been very ill, and that if granted his discharge his friends would give him a fresh start. The Official Receiver presented his report, and remarked that the estate had realised 3s. 2½d. in the pound. His Honour suspended the discharge for twelve months.

Re THE LONDON AND SUBURBAN CO-OPERATIVE STORES (LIMITED).

A WINDING-UP order was made against this company on March 6 last, and accounts have been furnished showing gross liabilities 13,993l. 0s. 6d., of which 12,341l. 12s. are expected to rank against assets valued at 12,443l. 3s. 7d. (less the preferential claims). The total deficiency to the contributories is returned at 50,481l. 16s. 9d. The company was incorporated on July 1, 1890, with a nominal capital of 100,000l. in shares of 5l. each, and was formed to carry on business at the following premises, viz:—18 Charing Cross Road, 64 Holloway Road, 305 and 307 Upper Street, Islington, 1, 3, and 4 Holbrook Terrace, Richmond, and Bury House, Ealing, and premises at Heath Street, Hampstead, Clarence Road, Clapton, and Kentish Town Road. The directors proceeded to allotment on July 11, 1890, upon a total subscription of 4,591 shares. The company commenced trading at Charing Cross Road, Upper Street, and Richmond about the middle of December last. The failure is attributed to the sums paid in excess of the value of the premises acquired, and consequent insufficiency of capital.

Re CHARLES G. USHER, 186 Oxford Street and 64 St. John's Wood Terrace, Manufacturer of Toilet Requisites.

AT Tuesday's sitting of the London Bankruptcy Court this bankrupt applied to Mr. Registrar Linklater for an order of discharge. The bankruptcy occurred in November, 1890, the petition being lodged by Messrs. J. & M. Cohen, sponge merchants, 53 and 54 Houndsditch. The unsecured and preferential debts amounted to 1,112l. 19s. 7d., and the secured ones to 607l., while the assets were returned at 265l. In the absence of opposition, the learned registrar granted the usual order of discharge.

Re GEORGE FERDINAND VON WEISSENFELD, otherwise SPRINGMUEHL, 97 Great Portland Street, W., and Stoke Newington, late of Paris and Milan, Analyst and Consulting Chemist.

THIS case again came before the London Bankruptcy Court last week. It will be remembered that the bankrupt was formerly a chemist at Milan, and was recently engaged by a limited company to promote a patent for the evaporation of liquids. He failed a few months since with total liabilities 1,689l. (unsecured 639l.), and assets valued at 360l. The examination has been adjourned on several occasions to give the bankrupt an opportunity to attend, and on the last adjournment Mr. Registrar Linklater stated that, unless he received a medical certificate to account for further absence, he should refuse to hear any excuse. Mr. Pope, assistant-receiver, now stated that he understood the bankrupt was still away from England. He was therefore instructed to apply for the examination to be adjourned *sine die*. The learned Registrar made an order in those terms.

Re DAVID STORER, lately trading in partnership with JOHN, THOMAS, and WILLIAM STORER, as DAVID STORER & SONS, at Wharf Road, Poplar, 5 Billiter Avenue, E.C., and at Glasgow, and Sydney, N.S.W., paint manufacturers, &c.

THIS bankrupt attended last Wednesday's sitting of the London Bankruptcy Court, and applied to Mr. Registrar Linklater to pass his public examination upon accounts showing gross liabilities, 123,593l., of which 64,693l. are expected to rank, and no available assets. The circumstances of failure have been already reported.

Replying to Mr. Wildy, Official Receiver, the bankrupt said that previous to 1864 his father carried on an extensive business as a paint manufacturer at Glasgow, but died in that year. The business was left to witness and his brother James, and carried on by them jointly until 1874, when he bought out his brother James, by giving him between 17,000l. and 18,000l. He then took his three brothers—John, Thomas, and William—into partnership. At that date his capital was 23,700l., and his brothers brought in nearly 4,000l. He was to receive $\frac{10}{16}$ ths of the profits, and they the balance between them. The business was carried on in that way until 1885, when they opened offices and works at London, but prior to that he (in 1878, with a Mr. Walker) started a branch business at Sydney, which was kept entirely separate from the English trading. The Sydney branch was managed by Walker entirely, and in 1883 it was accidentally ascertained that he had entered into heavy speculations. The result was that the Sydney house became involved, and the partnership, so far as Walker was concerned, had to be dissolved. When, in 1885, witness went to Sydney to straighten matters, the balance-sheet of the English firm showed a surplus of 131,000l. He was not aware, and was surprised to hear, that the firm's cash balance at the bank was then only 1,500l. It was true that he made no inquiries as to such balance before he left England, but then he left the management of the business to his brothers. He would suppose that the turnover of the business was considerably under 300,000l. per annum. The London firm suspended payment in November, 1887. He became aware of this by reading the announcement of the stoppage in the Melbourne papers. Being pressed as to whether he did not know for some time previously that the firm had been in difficulties, he admitted that he went out for the purpose of obtaining payment of outstanding debts due to the firm and remitting the moneys to England. He had repeated applications for remittances from the firm in London, but he had no distinct recollection of a cablegram on September 20, 1887, demanding an immediate remittance of 3,000l., and intimating that unless it were sent the firm would have to suspend. After the suspension he, with the assistance of a Mr. Trower, formed the Sydney business into a limited company, with a nominal capital of 200,000l. A sum of 25,000l. was raised on debentures, and the cash, with the book debts, representing in all 548,000, was paid to the creditors of the firm. That was sufficient to provide about 10s. in the pound on the total indebtedness, and it was entirely owing to the unpaid balances being subsequently pressed upon him that witness had to apply to the court under bankruptcy proceedings. He (witness) had also been a partner in the firm of Neilson, Storer & Son, of Renfrew. That business was entirely financed by David Storer & Sons, although he was the only partner in the latter firm that belonged to the former one. The Renfrew business came to an end in 1883, and there was still a debt of 10,000l. outstanding between them.

After some further questions by Mr. T. Cooper Willis and Mr. Biddle, the examination was ordered to be concluded.

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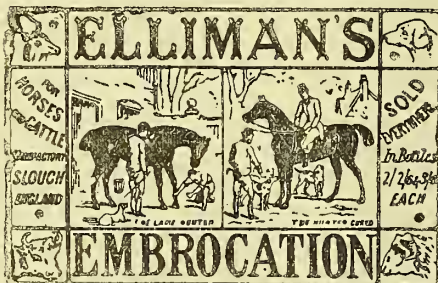
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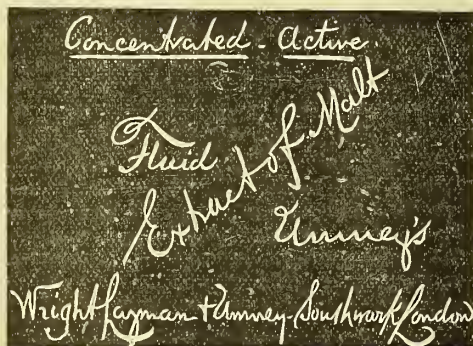
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EDITORIAL NOTES.

VETERINARY COUNTER PRACTICE.

THE heading of this note is the title of our latest chemists' handbook, which is now in the hands of the binders, and which we shall be ready to supply in the course of next week. In this, as in our previously published manuals—"The Art of Dispensing," Alpe's "Medicine Stamp Duty," and Proctor's "Pharmaceutical Testing"—we have sought for no public outside the members of the trade with which we are particularly associated. It would have been easy to have so written this veterinary treatise as to have secured a considerable sale among farmers and stock-owners, for it is a treatise which in a small compass deals with the salient symptoms and the suitable treatment of all the common diseases and complaints met with in the homestead. But the form in which the book is cast renders it next to useless to any reader without a pharmaceutical training. It is essentially and exclusively a chemist's handbook, and will fill its place quite creditably by the side of our other three practical manuals.

There is probably no development of the drug-trade which has so much money in it potentially as the treatment of animals. Veterinary practice and dentistry are, we take it, the two side professions which can with the greatest advantage be associated with pharmacy. We are aware of the legal restrictions which very properly separate the officially qualified from the merely naturally gifted practitioners of either art, and in cases where it is practicable, we would

strongly advise any young man who expects to become a chemist and druggist to secure, in the early part of his career, one or other of these qualifications. No better investment of superfluous time and cash could possibly be made. The combination of dental surgeon with chemist and druggist is not rare, and is generally profitable. The union of veterinary surgeon and chemist and druggist in one person is much less frequent, but certainly offers no less promise of benefit.

While we point out that the college curriculum and the legally prescribed endowment of qualification which follows it are well worth their cost to a chemist or druggist, we are quite aware that these will be sought for in only exceptional cases. And the reputation of being an expert animal-doctor is not attainable exclusively by such means. Many a chemist has or has had opportunities of becoming familiar with animals and expert in handling them and treating their diseases, so that he only needs the addition of his technical acquaintance with drugs and doses to be at any time ready for a case. Others, who have not had such opportunities, may yet acquire no little reputation by a lucky gripe-draught for a horse or by the rapid cure of a pet dog's skin-disease. All chemists, with or without veterinary experience, are asked at one time or another for some advice as to the proper treatment of animals; and there are few of them who have not felt the want of an elementary treatise limited to the cases likely to be brought to the counter. The trade is a good one to cultivate. Sixpence may be a high fee for the counter-treatment of a baby, but the horse and the cow are of far higher commercial value, and ten times the amount will not be grudged for a short course of medicine, especially if a little technical talk can be thrown in. It is to be an aid to chemists and druggists in providing them with advice on occasions such as those we have referred to, whether these be of daily or of only exceptional occurrence, that we have had this "Veterinary Counter Practice" compiled; and we think the instances will be few indeed in which it will fail to pay for itself in the first week or two after purchase.

THE SURTAX ON SPIRITS.

THE time for the annual revision of taxation is at hand, and chemists and druggists are making no move towards a rectification of the undoubted injustice which was perpetrated upon them last year. When the Chancellor of the Exchequer imposed an extra sixpence per gallon duty on spirit, and an additional threepence per barrel on beer, he was able to give a very fair reason for inflicting this penalty on the licensed victuallers, on whom it was intended the tax should fall. They were to meet with a certain amount of "comfort and consolation" in the limitation of competition by the buying up of a certain proportion of licences. That the pharmacist would also be a sufferer perhaps scarcely occurred to the lofty framers of our financial policy. If it did, the chemist was so insignificant in political importance, that he was regarded as a negligible quantity. But it is quite evident that to the extent of his trade in spirituous medicines, the chemist has to bear the extra burden without the chance of any "comfort and consolation" in return.

This burden, as we showed last year, is not a trifle. To many chemists it means probably a doubling of their income-tax. Is it fair that they should be required to submit to any such extra penalty for the benefit of the community?

The brewers and the distillers sent a deputation to Mr. Goschen on Tuesday to expound their grievance. We do not see that they as wholesale dealers have much to com-

plain of. Like the wholesale pharmacists, they simply transfer the tax to their customers. The Wine and Spirit Association and the licensed victuallers held a great meeting the same day at the Cannon Street Hotel to ventilate their objections. All have the reasonable ground that the tax was imposed mainly for a specific purpose, which was not fulfilled. Mr. Goschen says truly enough that it was not his fault, or that of his Government, that the money collected was not spent for the specific purpose for which the tax was proposed. How this affects the plea for the abandonment of the tax we do not quite see. The money is now going to county councils, and is used in relief of rates, for the promotion of technical education, and so forth. In other words, chemists and publicans are paying a larger share of the rates than any other of their fellow-citizens.

The boldest leveller among us would hardly venture to suggest that the learned Pharmaceutical Society should range itself in the train of Mr. Bung; but we may express regret that there exists no representative body to which we can look for official expression of claims and complaints of other than academic interest.

WORK AND WAGES IN THE AMERICAN DRUG-TRADE.

How does the condition of the average American artisan and labourer compare with that of his British fellow-worker? That question, though it has engaged the attention of writers of books, pamphlets, and newspaper articles innumerable, has rarely been answered in a manner altogether free from political or economical bias. The best materials from which to obtain an insight into the question are covered by the unattractive garb of the bluebook or hidden in the uninviting pages of the reports of Government departments. A graphic insight into the condition of American labour is afforded by a bulky report recently published under the auspices of the Massachusetts Bureau of Statistics and Labour. That organisation submitted to all employers of labour within its circumscription a list of questions inquiring into the relative proportions of the cost of material, labour and sundry expenses in the production of their goods, the wages and hours of labour of the employes, and a host of other matters. Notwithstanding the inquisitorial character of the schedule, and the fact that its filling up appears to have been quite voluntary, a sufficient number of employers of labour have answered the questions set to them (whether correctly or not is, of course, a matter of conjecture) to arrive at a fair estimate of the general condition of labour in that State. Massachusetts, which comprises Boston and other important cities of the Union, is one of the most important manufacturing regions of the United States, though unfortunately, in respect to its importance as a drug-trade centre, it ranks far behind some of the otherwise less important New England and Middle States. Still, enough wholesale druggists, patent-medicine manufacturers, and makers of soap and perfumery, have sent in returns to enable us to obtain more than a glimpse at the life of the workers in those establishments. In the manufacture of paper-boxes the cost of production appears to be shared fairly evenly by wages and raw material — thirteen manufacturers returning the proportions in their respective departments as from 36.45 per cent. to 62.61 per cent. for the former, and 34.92 to 62.10 for the latter. A maker of disinfectants places the percentage proportion of his outlay on wages to raw material as 9.27 to 90.73. Twelve instances of the

apportionment of costs in the manufacture of pharmaceutical preparations are given. They include such goods as asthma remedy, root-beer, Dover's powder, "essences," "patent medicines," and glycerine lotion, and furnish separate particulars of the cost of single batches of the preparations, and of the percentage proportion of cost of production for the total output of the establishment. Wages, as might be surmised, form the heaviest item in the cost of producing the specifics of the average "patent-medicine man." Out of every dollar sunk in the production of patents in Massachusetts, if we may judge by the examples furnished by the labour bureau, $13\frac{1}{2}$ cents represent the value of the material used, while "labour" absorbs from 65 to $86\frac{1}{2}$ cents. Dover's powder and glycerine lotion represent a much greater intrinsic value, 79 and $83\frac{1}{2}$ cents being respectively stated to be spent on the ingredients, against 21 and $16\frac{2}{3}$ cents for cost of preparation of 10 lbs. of the former and one dozen bottles of the latter. But it is somewhat puzzling to find that the Dover's-powder and glycerine-lotion makers both return the raw material used in their establishments as a whole to represent 100 per cent. of the cost of production, leaving no margin whatever for other items in the manufacture. In the preparation of root-beer and asthma remedies also labour does not seem to count for much. Twenty gallons of root-beer cost 96 67 per cent. for raw material and 3-33 per cent. for labour, and on twelve dozen bottles of asthma remedy the proportion worked out as 93-33 against 6-67 per cent. An interesting feature would have been added to the returns had we been informed of the relation between the cost of production and the sale price of the goods, but even the American labour-statistician's inquisitorial mind forbore from pressing this point. In the aerated-water trade we have returns from seven manufacturers detailing the distribution cost of production for batches varying from 48 bottles to 3,000 dozen bottles, and also specifying the average for the output of the establishment. Leaving aside one or two obviously unreliable answers, we find that an outlay of one dollar in the manufacture of soda water represents from 52 to $71\frac{1}{2}$ cents in material, and from $28\frac{1}{2}$ to 48 cents of wages. The consumer of ginger ale, it would seem, gets a larger proportion of solid value for his money, a cost of one dollar in that article representing from 71 to $86\frac{1}{2}$ cent's worth of raw materials, while the happy individual who is accustomed to slake his thirst with quaffs of "tonic beer" has the satisfaction of knowing that of every dollar of the cost of his tippie from 25 to 62 cents go into the pockets of the labouring man. The figures given by the Bureau with regard to "paints, colours, and crude chemicals," are unfortunately exceptionally meagre; but, as might be expected, raw materials represent a considerable proportion of the cost of production of these goods. Some of the percentages are returned as follows:—Copperas—material, 54; labour, 34; non-specified expenses, 12. Japan black—material, 71; labour, 14; non-specified expenses, 15. Mixed paints—materials, $82\frac{1}{2}$; labour, $8\frac{1}{2}$; non-specified expenses 9 per cent. In certain surgical and scientific instruments, on the other hand, almost exactly reverse conditions prevail. Thus, to make forceps costs $91\frac{1}{2}$ per cent. in labour, and $8\frac{1}{2}$ per cent. in material; mariner's compasses, 56 and 44 per cent., artificial legs, 76 and 20 per cent. respectively. The outlay of a maker of steel spectacles is distributed as follows:—Material, 57 per cent., wages, 32 per cent., sundry expenses, 11 per cent.

The total cost of production of all the goods of which particulars were furnished by the manufacturers who replied, amounts, in round figures, to \$127,000,000. Of that amount \$33,500,000, or $26\frac{1}{2}$ per cent., were paid in wages to the producers. The two highest wage proportions among the 73

separate trades of which mention is made are found in the manufacture of clocks and watches (77 per cent.) and paving ($71\frac{1}{2}$ per cent.); the two lowest in oils and illuminating fluids (6 per cent.) and tallow, candles, soaps, and grease (9 per cent.). Drugs and medicines with an average wage proportion of 23 per cent., and perfumes and toilet articles, with one of $27\frac{1}{2}$ per cent., rank rather below the medium. But, as only 225 out of a total of 916 druggists and 60 out of 241 perfumers have sent returns, the figures can only be taken as approximately correct. The establishments answering the questions of the Bureau, however, included generally all the more important ones, the value of the annual output of those in the drug line embodied in the former category averaging \$13,525 per annum, of those in the latter \$5,156 only. The answers received to the inquiry what are the principal markets of the products of the factories under review show how little the products of American industry enter into competition with our own in the neutral markets of the world. Of 7,935 establishments, producing \$464,000,000 worth of goods, only 203, with a total output of less than \$30,000,000, have any foreign market for even a portion of their goods, and only four, with an aggregate output of \$1,154,603, or less than $\frac{1}{4}$ per cent. of the whole, rely exclusively upon foreign customers. The Middle States of the Union are the great customers for Massachusetts goods, and the fiscal policy of the country, which is framed expressly with the object of making the United States self-sufficing, is no doubt largely responsible for the absence of flourishing export trade in manufactured goods. The question, "Are sales decreased by the importation of foreign goods?" was answered by 1,316 firms in the affirmative, and by 3,682 in the negative, while 18,433 give no certain information on the point. Of the 916 drug firms, 18 are stated to do a foreign trade, amounting to a total of about \$300,000, or $14\frac{1}{2}$ per cent. of their output; and two perfumers rank as exporters, their shipments amounting to 32 per cent. of their production. As American genealogies go, the Massachusetts drug business is a venerable and hoary trade. The firm of Dr. A. Johnson dates from 1810; N. B. Gould, dealers in prepared herbs, from 1830; Theodore Metcalf from 1837; and Jas. C. Ayer from 1842. But if we peep into other trades we find firms dating much further back. Massachusetts, we must remember, is the most venerable of American states. It was on her shores that, in 1620, the Pilgrim Fathers descended from the *Mayflower*, and one dyewood factory now existing can trace its origin through an uninterrupted cycle of activity back to 1639, when one Captain Cook founded the establishment. Between 1865 and 1885 the number of firms in the drug and medicine trade has risen from 89 to 916, and the value of goods manufactured from \$1,000,000 to \$4,750,000.

With regard to wages, the drug and medicine trades rank very low, bearing in mind, of course, that the standard of wages in America differs from ours. Thirty-two per cent. of those in receipt of weekly wages receive from \$5 to \$7, and 10 per cent. earn less than \$5 a week, while the average wage of all industries in the State is from \$8 to \$9 per week. Working-hours, again, are abnormally long in all trades, and in the drug trade they are among the longest. Scarcely any women and children work under ten hours, and four-fifths of the men work more than eleven hours a day, while the Saturday hours are longer, instead of shorter, than those of the other days. The precise average of working-hours in the drug trade is as follows:—women and minors, 10-15; men, 12-01; and on Saturdays, 12-32 for both sexes! The shortest average of men's hours is 8-40 per diem in artificial teeth, and other dental work. It is significant to observe that this is one of the few branches in which American industry excels.

COMMENTARY.

AGAINST THE CURRICULUM.—In an ably written pamphlet, just published, Mr. G. S. V. Wills makes a spirited attack on the curriculum proposals comprised in the Pharmacy Bill, and furnishing, in fact, the reason for its existence. He connects this proposal with the desire frankly owned by many of the curriculum advocates, and in which we confess we share, that "a greater proportion of those engaged in pharmacy as an occupation should be drawn from a superior class than is at present the case," and he sets himself to show that it is for this object that the free system, which at present prevails, and which the most competent observers have declared to be sufficient for the public safety, is to be overthrown, and a monopoly placed in the hands of the Pharmaceutical Society. Mr. Wills uses precisely the argument which will be most effective with members of the House of Commons. Unless the promoters of the Bill can prepare a counterblast very promptly, or unless Mr. H. S. King, or one of the other Parliamentary sponsors of the Bill, is prepared with an effective reply, the pamphlet is likely to seriously prejudice the prospects of the second reading on Wednesday next.

A NOTEWORTHY TRADE EVENT of the week is the publication of a new edition of Messrs. S. Maw, Son & Thompson's "Book of Illustrations." The last issue of this work was produced in 1882. In the interval patterns have so largely changed, and so many new instruments have been introduced, that scarcely a page of the new volume exactly corresponds with one in the previous edition. Moreover the firm have immensely improved their work by reducing in many instances the scale on which the engravings are made, and compiling them more compactly on the pages. The consequence is that, with a largely-increased number of engravings—the illustrations now number close on 5,000—the bulk of the book is considerably reduced. By far the majority of the drawings are entirely new, and the perfection with which the details of instruments and sundries are rendered is surprising. As indicative of the conscientious manner in which the artistic work of this book has been carried out, the illustrations of trusses on pages 170, 171, and 172 may be referred to. These are not such elaborate drawings as appear on many other pages, but every one of them, we are informed, is made from a photograph from the nude, showing the truss *in situ*. Messrs. Maw are sending out this week nearly 40,000 copies of the book, with their prices-current, to chemists and medical men; but they tell us they will be glad to supply a copy to any chemist who may be missed, on application.

SALICYLIC AND CRESOTIC ACIDS.—Prof. Charteris, of Glasgow, has continued his experiments with paracresotic and orthocresotic acids with a view of corroborating, or otherwise, the results which he communicated to the Pharmaceutical Society in November last. Then he stated that the lethal dose of each acid was about 1 grain for a pound rabbit. The second series of experiments, reported on to the *British Medical Journal*, were conducted with samples of ortho and para cresotic acids obtained from Messrs. Hopkin & Williams, and prepared from the corresponding cresols. The acids were physically identical with those prepared by Prof. Dunstan. The results of the physiological experiments corroborated the previous conclusion so far as orthocresotic acid is concerned, but the lethal dose of the para acid was found to be 3 grains per pound rabbit. In another experiment Prof. Charteris combined the cresotic acids with natural salicylic acid, and administered a portion

of the mixture to a rabbit, which died in twelve hours. The rabbit weighed 2 lbs., and the dose it got was equal to paracresotic acid $\frac{1}{4}$ gr., orthocresotic acid $\frac{1}{4}$ gr., and natural salicylic acid $4\frac{1}{2}$ grains. As Prof. Charteris has previously shown that natural salicylic acid is innocuous, this last experiment reveals the remarkable fact that the lethal acids, when mixed with salicylic acid, are much more toxic than when administered alone. This is a singular and scarcely credible conclusion. Prof. Charteris also enters into some chemical considerations in his paper, and concludes with the suggestion that, although paracresotic acid is poisonous, its sodium salt may be of benefit in certain diseases. We may recall the fact that Demme's experiments with sodium paracresotate showed that the lethal dose of it was 10 grains per kilo. rabbit—*i.e.*, about 5 grains per lb. So that Prof. Charteris's 3 grains of acid per lb. is not in hopeless disagreement with Demme. They are practically agreed.

A POSSIBLE CURE FOR CANCER.—About two years ago Dr. Mortimer Granville told the *Lancet* of a method of treating cancer, which he believed to be likely to prove useful, and now, as the result of experience to this date, he is able to say: (1) that none of the earlier cases have relapsed; (2) that scirrhus tumours of large size and undoubted authenticity have gradually disappeared without any operative interference; (3) that the health of patients has improved under treatment and the cachexia vanished. The method of treatment was, we may state, the combined use of thallin and papain; but Dr. Granville now uses instead of thallin a periodohydromethyloxychinolin (an iodo-derivative of antipyrin), because that is better borne, and seems to be more effective than thallin. He either inuncts or injects the tumour with a papain specially prepared, as he has reason to believe that it is not the proteid elements (either the globulin, the α -phyt.-albumose, or β -phyt.-albumose or these in combination), but the organised ferment of the papaw juice that produces the effects observed. At present Dr. Granville does not explain why this method of treatment is effectual, for its scientific aspects are still under investigation. Some authorities, he says, have alleged that the bacillus found in papain is identical with the bacillus subtilis, but he believes that conclusion to be erroneous. However that may be, of the therapeutic value of papaw juice, or certain of its elements, as a solvent of the morbidly-indurated tissues in cancer he has no doubt, although it is *perfectly useless* unless administered or applied in combination with periodohydromethyloxychinolin or similar adjunct. In connection with cancer we may state that Mr. George Dean, A.M., M.B., C.M., has worked at the Pathological Institute, Berlin, on the same lines as Dr. William Russell, of Edinburgh, with cancerous and other tissues with a view to determine whether the globular-fuchsin bodies found by Dr. Russell are microbic and peculiar to cancer. Dr. Dean says they are not. From a comparatively small number of tissues the fuchsin bodies were found in six separate cases. Two were typical cases of uterine myoma without a suspicion of cancer. In a case of syphilis of the lungs the bodies were found in the connective tissue around the bronchial glands. The fourth was a case of phthisis. The other two cases were normal tissues. The one was a case of non-lactating mamma from a woman who had borne children; the other was from a lactating mamma. The bodies are not micro-organisms at all.

CHLORAL-POISONING.—Dr. J. L. Welch, of Selangor, Straits Settlements, reports to the *Lancet* a case of chloral-poisoning, a Chinese woman having taken 360 grains of chloral-hydrate instead of Epsom salts. She recovered, mainly through the influence of hypodermic injections of strychnine.



AND

Literary Notes.

The Daughter: her Health, Education, and Wedlock. By William M. Capp, M.D., Philadelphia. London: F. A. Davis.

THE doctor tells us he wrote this book for a lately-married young lady, and had since yielded to a request that the suggestions contained in it might be printed. There is nothing so novel in his advice that he need have taken the trouble to write it out. There are scores of books answering the purpose in the English language explaining more fully the peculiar physiological conditions and their treatment. Associated with childhood, maidenhood, wifehood, and motherhood, we can, however, compliment the author on the delicate though perfectly plain manner in which he explains what it is essential that women should know.

Newspaper Press Directory and Advertisers' Guide. London: C. Mitchell & Co., Red Lion Court, Fleet Street. 2s.

WE believe this was the first of the press directories which are now so numerous. It is announced as the forty-sixth annual issue. The book reflects in bulk and contents the enormous growth of the newspaper press which has been shown in those years. It appears from an interesting article on "Fleet Street" contained in the volume that in 1846 there were thirty-five papers and periodicals published in Fleet Street. Seventeen of these have ceased to trouble. The list for to-day numbers 237, and this does not include over a hundred provincial newspapers which have their London offices in that same street. The foreign and colonial section of Mitchell's Directory is much extended, and several useful features are introduced into it this year for the first time.

On the Use of the Oil of Eucalyptus Globulus, combined with other Antiseptics, in the Treatment of Scarlet Fever and all infectious Diseases. By J. Brendon Cerven, M.R.C.S., L.S.A. 1891. London: H. K. Lewis. 1s.

THIS pamphlet is a reprint of a lecture delivered a year ago before a medical society. The author shares the common and erroneous opinion that the eucalyptus oil of commerce is obtained from the leaves of *Eucalyptus globulus*, and he gives his support to the fallacy that the virtue of eucalyptus trees in malarious districts is due to antiseptic vapours exhaled by the trees. It is more likely that the extraordinary water-absorbing power of the trees is the reason why they make malarious districts healthy. But this has little to do with the subject of the pamphlet. The author's object is to show that in scarlet fever cases the best treatment is to rub the body with Tucker's disinfectant (a mixture of eucalyptus oil and camphor), and give eucalyptus oil internally. In his hands the treatment has been exceedingly successful, especially in cases where the isolation of the patients was impracticable. Our principal objection to the pamphlet is that its price is purely fanciful.

On the Action of Apomorphine and Apocodeine. By William Murrell, M.D., F.R.C.P.

IN this exceedingly careful and complete clinical study Dr. Murrell has added considerably to our therapeutic knowledge of these alkaloidal derivatives. It has been a moot point whether apomorphine is emetic or not when administered by mouth. Dr. Murrell shows that it cannot be so regarded, he having given apomorphine hydrochlorate in doses almost up to the limit of toxicity, and the only effect produced was nausea, and that merely when the stomach

was empty. As an expectorant the remedy is one of great value in bronchitis, and perhaps the most important feature of this study is that the author found that an ointment of apomorphine hydrochlorate produced, when rubbed on the chest copious expectoration, so that for children we have in apomorphine hydrochlorate a sure expectorant, which may be resorted to in the most critical cases. It is also not without diaphoretic properties. Apocodeine hydrochlorate is a substance scarcely known in medicine. It is an expectorant, both when administered hypodermically and by mouth. It is best given in the form of a pill, and as much as 3 or 4 grains can be given per day. The pamphlet in which this information is conveyed is a reprint of articles which have appeared in the *British Medical Journal*.

New Method for the Analysis of Peptones. By A. Denaeyer, Pharmacien Chimiste. London: G. Straker & Sons. 16 pp. pamphlet.

ONE of the most important advances which has been made during the present generation in invalid dietetics has been the introduction of partially or wholly digested foods. Of these the nitrogenous or peptone preparations made from flesh are of chief interest, since they afford to weak persons highly nourishing food in the most easily assimilable form. The value of these foods is proportionate to the percentage of peptone contained in them. There is reason to believe that hitherto, on account of imperfect methods of analysis, exaggerated or erroneous notions have been formed regarding many peptonic foods, as in their preparation the gelatine of meat necessarily remains with the more valuable elements, and may in analyses be reckoned along with them. The object of Dr. Denaeyer's pamphlet is to show how each of the constituents of peptones may be separately determined. Commercial peptones, we may say, consist of the following substances:—Gelatine (normal and unjellifiable), albumose, peptone, creatinic bases, albumin, extractive matter, mineral salts, acid tartrate of potash, and water. The difficulty generally experienced in the analysis of this complex mixture has been the separation of the gelatine from the peptone. It may fairly be said that this has never been accomplished with any degree of precision. Dr. Denaeyer starts his method by adding alcohol to a 10 per cent. aqueous solution of the peptone. This precipitates peptone, albumose, and normal gelatine. After a time the washed precipitate is dissolved in hot water, and saturated solution of mercuric chloride added to it. This precipitates albumose and peptone only, so that the gelatine remains in the filtrate, from which it is subsequently removed by saturation of the liquid with sulphate of ammonia, the accurate determination of the gelatine being simple. This is the important part of the method, as the factor obtained is afterwards used in determining the amounts of albumose and peptone present. The former is obtained by König's ammoniac sulphate process, in which albumose and gelatine are precipitated, and the latter by the employment of a solution of acid phosphotungstate of soda. This is the novel part of the method. The solution is thus prepared:—

	Grammes			
Tungstate of soda	50
Distilled water, boiling	1,000
Phosphoric acid	100
Pure hydrochloric acid	150

The latter acid is added after the solution is cold, and the liquid is filtered after 24 hours. At the end of this time the precipitate is collected, washed in acidulated water, and weighed. Then incinerated and again weighed. From the figures obtained, minus the amount of albumose and gelatine already found, the percentage of true peptone is obtained. We must not follow the remainder of the method so minutely. Obviously the alcoholic filtrate from the first operation contains the digested gelatine, extractive matter, and some mineral matter. Details for the isolation of these are given in the pamphlet. While there may be differences of opinion regarding the necessity and practicability of some parts of the process, there can be no doubt that Dr. Denaeyer has approached the subject with a clear perception of what is desirable to know regarding the composition of peptonised foods.

STAMP-INKS.

IN the latest edition of his "Pharmaceutische Manual," Eugen Dieterich devotes a chapter to the preparation of stamp-inks. These may be divided into three classes: first, those made with mineral colours and an oily basis; second, those containing aniline colours dissolved in oil; and third, aniline inks made with glycerine. The last are for india-rubber stamps, the oily colours being unsuitable for these. The aniline colours employed for the oily inks are the oil-soluble ones put on the market by the firm of Franz Schaal, Dresden.

OILY STAMP-INKS.

Blue.	Parts
Ultramarine	25
Olive oil	75

Reduce the ultramarine to an impalpable powder, and mix with the olive oil.

Blue.	Parts
Paris blue	10
Ultramarine	5
Olive oil	85

Mix the solids, and when reduced to an impalpable powder gradually add the olive oil, with constant stirring.

Green.	Parts
Verdigris	25
Oleic acid	5
Olive oil	70

Rub the verdigris to very fine powder, mix the oleic acid with it, and after a few minutes, the olive oil.

Red.	Parts
Vermilion	40
Olive oil	60

Prepare as above.

Black.	Parts
Gas-black	15
Olive oil	85

Prepare as above.

All these inks should be well shaken before pouring on the pad.

OILY ANILINE INKS.

Red.	Parts
Oil-soluble Bordeaux red aniline	15
" scarlet aniline	15
Crude oleic acid	5
Castor oil	95

Rub the aniline colours very fine with the oleic acid, then add the castor oil, and warm the whole gently, stirring all the time, until it reaches a temperature of 40° C.

The following are prepared in the same way:—

Blue.	Parts
Oil-soluble aniline blue	3
Crude oleic acid	6
Castor oil	94

Violet.	Parts
Oil soluble aniline violet	3
Crude oleic acid	5
Castor oil	95

Blue-black.	Parts
Oil-soluble aniline black	5
Crude oleic acid	6
Castor oil	94

Green.	Parts
Oil-soluble aniline blue	2.5
" " citron-yellow	1.5
Crude oleic acid	5
Castor oil	95

GLYCERINE STAMP-INKS.

	Parts
Aniline water-blue, 1B	3
Distilled water	10
Wood vinegar	10
Rectified spirit	10
Glycerine	70

Make a solution by rubbing in a mortar.

In the same way, and with the same compound basis, are prepared the following colours:—

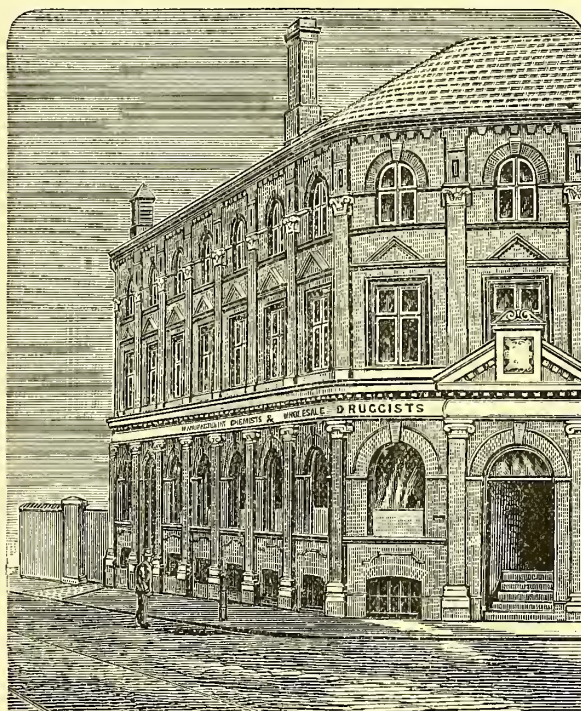
	Parts
Violet.—Methyl violet, 3B	2
Red.—Diamond fuchsin I	2
Green.—Aniline green D	4
Brown.—Vesuvius B	5
Black.—Deep black E	3

For bright red omit the vinegar from the solution, replacing it by water, and using 3 parts of eosin BB N.

All the liquids in the formulæ are to be taken by weight.

MESSRS. WYLEYS' BIRMINGHAM BRANCH HOUSE.

MESSRS. WYLEYS & Co., manufacturing chemists and wholesale druggists, have recently opened the premises of which an illustration is given as a branch and depot of their Coventry house. Built expressly for conducting the business of a wholesale druggist, the new premises are specially adapted for conveniently carrying on the trade. The wet-room occupies the whole of the basement, and is suitably divided into compartments, and fitted up for the storage of a complete stock of pharmaceutical preparations, essential oils, &c. A large packing-room is situated on the ground-floor, together with a convenient waiting-room and clerks



offices. The dry department consists of two floors, with well-arranged and closely-packed bins, to obviate the loss of space occasioned by storage in casks. A lift, running from basement to third storey of the building, connects all departments with the packing-counter, which is further connected by speaking-tubes with each room.

The premises are exceedingly compact and conveniently arranged, and present a handsome and businesslike appearance when viewed from the street. All manufacturing operations, even down to the preparation of tinctures, will be conducted in the laboratories at Coventry, as well as all drug-grinding, pill-coating, &c. A waggon and horses will carry the bulk of goods sent from Coventry to the branch house, but small parcels will be sent by rail. A telephone between the two houses bridges the distance of eighteen miles between Birmingham and Coventry.

CHEMICAL BREVITIES.

Guaiacol is decomposed by sunlight, from which it should be protected.

Talc is an acid metasilicate of magnesia, $3 \text{MgSiO}_3 \cdot \text{H}_2\text{SiO}_3$. It was doubtful until recently whether it was that or a basic pyrosilicate.

If Ether contains alcohol, the presence of the latter is shown by shaking up with a mixture of 9 parts of saturated solution of potassium bichromate and 2 parts of saturated solution of mercuric chloride. The mixture becomes turbid in 10 to 20 minutes, owing to the mercury being deposited as a white powder.

Beeswax sometimes contains resin. It can be detected by Böttger's modification of Hager's process. Boil the sample with 15 times its weight of proof spirit, cool, filter, and mix with its own volume of water. The mixture is turbid if as little as 2 per cent. of resin is present. Stearic acid does not affect the test.

Morphine does not undergo much change in the animal system. E. Tauber has recovered 95 per cent. of a quantity which he injected into the blood of a dog. He also subcutaneously injected 16 grammes of morphine hydrochloride into a dog during ten days, after which 0.512 gramme of morphine was found in the fæces.

Wax.—Both Japanese and ordinary wax sink in water about 18°C ., but above 18° they float. This, Kleinstrick says, is because the wax has a much greater coefficient of expansion than water, and under 18° it has a higher specific gravity. To this we may add that, considering the specific gravity of wax (950 to 975), it is a wonder if it does sink.

Kuro-moji Oil is the ethereal oil of the leaves of *Lindera fericia*, Bl., a Japanese *Lauraceæ*. It has a dark-yellow colour, a sp. gr. of 0.901 at 18° , and a powerful aromatic smell. It contains two terpenes, *destrilimonene* and *dipentene*, and two substances containing oxygen—namely, inactive terpineol and levocarvol. The oil is used largely in Europe.

The Pine-tree yields a honeydew containing 45.5 of solid matters, mainly sugars; probably arabinose predominates. Bees collect a honey from the leaves, which differs from the honeydew in being levorotatory, even to a greater extent than usually exhibited by honeys. Probably the bees in gathering the honey exercise an inverting effect on the "dew."

Dithiosalicylic Acid.—There are two isomers which go by this name. The soda-salts of the acids differ widely. One is difficultly soluble in solution of sodium chloride is insoluble in alcohol, and is not hygroscopic. The other is easily soluble in solution of common salt and in alcohol, and is strongly hygroscopic. The first is poisonous to animals, but the second is used medicinally.

New Mercury Compounds.—Mr. van Bemmelen has exhibited to the Amsterdam Royal Academy of Sciences two new compounds of mercury—a crystalline sulphate with one molecule of water, $\text{HgSO}_4 \cdot \text{H}_2\text{O}$, and a colourless basic sulphate $(\text{HgO})_2(\text{SO}_3)_2 \cdot (\text{H}_2\text{O})_2$, both obtained by Mr. C. Hensgen in the inorganic chemical laboratory of Leyden during his researches on the chemical equilibrium between mercuric oxide and diluted sulphuric acid.

Oleum Rusci, when rectified, is called oleum betulini æthereum rectificatum, and it has an acid reaction and

sp. gr. of 0.956. It has recently been examined by Pfrenger, with a view to the discovery of its constituents, and the result of his study is the statement that the constituents of the oil or cresote are traces of phenol, cresol, guaiacol 1.3.4-xylenol, and 1.3.4-cresol, the third and last compounds forming the bulk.

Carbonic Oxide.—M. Berthelot, in a communication to the Academy of Sciences, states that the decomposition of carbonic oxide at a red heat, with production of traces of carbon and carbon dioxide, is not due to the direct dissociation of carbonic oxide, but to molecular condensation. In the course of this inquiry he observed a characteristic reaction of carbonic oxide, due to its reducing action on an ammoniacal solution of silver nitrate. If bubbles of carbonic oxide, or an aqueous solution of it, be added to the nitrate solution, an abundant black precipitate appears upon boiling.

Colchicum Seeds can be estimated for colchicine by extracting 20 grammes with rectified spirit, evaporating the tincture, to which 25 c.c. of water has been added. Extract the residue with four washings of chloroform (10 to 15 c.c. each time). Evaporate the chloroform, dissolve the residue in water, filter, and repeat the chloroform treatment, the residuum in this case being heated in presence of a little water, to decompose a compound of colchicine with chloroform, then evaporated, and finally dried over sulphuric acid to a constant weight. This is Kremel's process.

Silica in the Sea.—It has always been a matter of doubt where the minute organisms of the sea get the silica which goes to make up their shelly coverings. Sea-water does not contain enough of it in solution. Dr. John Murray, director of the *Challenger* Commission, and Mr. Robert Irvine have solved the problem in a paper communicated to the Royal Society of Edinburgh. They prove that clay and mud, carried down by rivers to the sea, are to be found in even the least disturbed parts of the ocean. Diatoms can extract from these clays sufficient material for the formation of their siliceous sheaths. It also appears that the suspending power of sea-water for such clays diminishes very markedly as the temperature rises. This accounts for the great abundance of diatoms in the colder seas.

Gazette.

PARTNERSHIPS DISSOLVED.

Collins, W. C. G., & Eastwick-Field, C., Midhurst, surgeons, apothecaries, and medical practitioners.

Edlin & Aldous, Plymouth and Compton Gifford, surgeons and medical practitioners.

Farmer & Mackay, Chorley, physicians and surgeons.

Hanbury, C., Hanbury, F. J., Jewell, J. R., and Wallas, T. R., under the style of Allen, Hanburys & Co., Vere Street, chemists and druggists.

Poole & Shapley, Sidcup, surgeons and physicians.

Poole, C. W., Barlow, E. G. B., and Clarkson, A. J., under the style of G. Barth & Co., Poland Street, Oxford Street, manufacturers of compressed gases and anæsthetic apparatus.

THE BANKRUPTCY ACTS, 1883 AND 1890.

RECEIVING ORDERS.

Cole, William, Bradford, Yorkshire, druggist and herbalist.

Gorton, Chester Aldridge, City Road, E.C., wholesale perfumer.

Turner, Frank E., Median Road, Lower Clapton, late of Powerscourt Road, Clapton, doctor of medicine.

ADJUDICATION.

Cole, William, Bradford, Yorkshire, druggist and herbalist.

LIBRARY

Trade Report.
No.

Notice to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purposes.

It should also be recollected that for many articles the range of quality is very wide.

42 CANNON STREET, April 9.

A FAIR amount of business has been transacted this week, but, so far as drugs and chemicals are concerned, there are not many alterations in value to report. Cod-liver oil is decidedly cheaper, and cinchona bark also sold at a somewhat lower rate. Oils of anise and American peppermint have fallen in value, and calabar beans are somewhat easier in Liverpool. Camphor remains very firm. Quinine is slow, and a transaction is reported at a somewhat lower figure. Cream of tartar is likewise cheaper. In outside articles alterations are much more numerous, and they may be summed up as follows:—Higher: Quillaia, Penang cloves, rape and cottonseed oils, turpentine, and hyposulphite of soda. Very firmly held: Turmeric, gambier, and bees'-wax. Lower: Shellac, sulphur, cocoa butter, black and white pepper, pimento, cassia lignea, Jamaica ginger, gum olibanum, Aden gum and Kurachee gum.

AMERICAN QUININE.—Messrs. Powers & Weightman, of Philadelphia, have issued a circular in response to the widespread reports that they had ceased manufacturing quinine themselves, and simply bottled and labelled foreign quinine as their own brand. They aver that they have never relinquished the manufacture of quinine since they first began it, shortly after its discovery, some sixty or seventy years ago, and say that the work of making and packing it is all done by them in Philadelphia.

INTERNATIONAL TELEGRAPHIC COMMUNICATIONS.—From the headquarters of the International Telegraph Administration in Berne, says the *Handelsmuseum*, a return has just been issued reviewing the progress of international telegraphy during the year 1890. During that year, it appears, the Argentine Republic, Cuba, the Philippine Islands, and Porto Rico entered the Telegraphic Union, which now embraces forty-two countries. With regard to the extension of international cable communication, the year has not been a very remarkable one. A new cable between the island of Perim and the Arabian mainland, and the connection of Zanzibar with the German possessions of Bagamoyo and Dar-es-Salaam, and the English port of Mombasa with several, from a European point of view, less important lines in the West Indies, form the principal achievements accomplished during its course. A new line has been laid from Berlin to Rome—the first international one in the construction of which bronze has been used instead of iron wire. The proportion of foreign to inland telegraphic messages in the principal commercial countries of the world is rather striking. The United Kingdom comes first with 65 millions telegrams, including 7 millions foreign messages; but Germany, out of a total of only 26 millions, had 8 millions of foreign messages; while France shows 35 millions of inland and 7 millions of foreign telegrams.

ACID (ACETIC).—A steady trade is doing at the rate of 17*l.* per ton for 30-per-cent. and 35*l.* for 70-per-cent.

ACID (CITRIC).—Quiet and slow of sale at 1*s.* 7½*d.* to 1*s.* 7½*d.* per lb. The exports of citric acid from British ports in the first quarter of 1891 are given as 1,184 cwt., against 1,385 cwt. in the corresponding quarter of 1890. The following figures relate to our imports of concentrated juice:—

	1891	1890	1889	1888	1887
Month of March .. pipes	135	654	655	671	628
First three months ..	584	1,892	2,132	1,914	1,698

ACID (TARTARIC).—Very quiet at 1*s.* 2¾*d.* to 1*s.* 3¼*d.*, according to brand.

BUCHU.—A parcel of about 14 packages arrived last week. Privately some business has been done at 5*d.* to 5½*d.* per lb. for good round green leaves.

CALABAR BEANS.—Considerable sales, amounting altogether to about 140 packages, have been made in Liverpool at declining prices, from 4½*d.* to 4*d.* per lb.

CAMPHOR (CRUDE).—Firm, but without business this week. On the spot 160*s.* remains the highest price paid, but 170*s.* is asked. For shipment March-April a sale is reported at 137*s.* 6*d.* c.i.f. terms. Our declared imports this week amount to 854 packages.

CAMPHOR (REFINED).—German very firm, and little offering on the spot, though some might probably still be had at 1*s.* 9½*d.* to 1*s.* 9¾*d.*; for May delivery, however, 1*s.* 9½*d.* will buy without difficulty. The English makers were expected to have raised their price 1*d.* per lb. to-day, but refrained from doing so, as one of them, we understand, was unwilling to agree to the advance; they now quote 1*s.* 10½*d.* to 1*s.* 11*d.*, according to quantity.

CANTHARIDES.—We hear of no further business in either China or Russian. The quotations remain nominal.

CARDAMOMS.—The following figures refer to the shipments of cardamoms from Ceylon in the period between January 1 and March 16:—1891, 71,437 lbs.; 1890, 96,333 lbs.; 1889, 48,572 lbs.; 1888, 83,038 lbs.

CINCHONA.—Tuesday's bark sales were moderate in extent and consisted almost wholly, so far as saleable barks are concerned, of Indian-grown cinchona. Not only red, but also grey and yellow barks were well represented. The catalogues were composed of the following assortment:—

	Packages	Packages
	208 of which	154 were sold
Ceylon bark	1,605	1,521
East Indian bark ..	646	114
South American bark ..	2,459	1,789
Total	2,459	1,789

No Java barks were offered. A dull tone prevailed throughout the auctions, and prices declined about 10 per cent., as compared with the previous London auctions, thus falling to about par with the last Amsterdam sales. The unit ranged from ¾*d.* to 1*d.* per lb., the latter limit being scarcely exceeded even for the best grades of bark. The following are the approximate quantities purchased by the principal buyers:—

	Lbs.
Agents for the Brunswick factory	143,541
„ Mannheim and Amsterdam factories ..	75,799
„ American and Italian factories	47,610
„ French works	38,120
„ Stuttgart and Frankfurt o/M. works ..	37,936
Messrs. Howards & Sons	25,840
Agents for the Auerbach factory	23,060
Mr. Thomas Whiffen	17,670
Sundry druggists	15,430
Total quantity sold	424,806
Bought in or withdrawn	83,956
Total quantity offered	508,762

It should be well understood that the mere weight of bark purchased affords no guide whatever to the quinine yield represented by it; firms who buy a small quantity of bark by weight frequently take the richest lots, and *vice versa*. The following prices are shown by an analysis of the catalogues to have been paid for sound bark:—

CEYLON CINCHONA.—Bark from Ceylon was in very poor supply, and only a few piles sold for as follows:—*Original*: Ordinary thin red chips, 1½*d.*; dull chips and shavings mixed, 2*d.* to 2½*d.*; dull and dusty root, 1½*d.* to 2½*d.* per lb. Ordinary grey chips, 2½*d.* per lb.; weak to good bright quilly (Ledge) chips, 4½*d.* to 6½*d.*; common weak ditto (Calisaya) chips, 1½*d.*; weak Hybrid chips, 2½*d.* per lb. *Renewed*: Fair grey chips, 3½*d.* to 4*d.* per lb.

EAST INDIAN CINCHONA.—*Original*.—Red varieties: Rather thin and woody to good bright stem and branch chips, 1½*d.* to 3*d.*; dull chips and shavings mixed, 1½*d.* to

2½*d.*; good bright chips, 3*d.* to 3½*d.*; weak to fair bright spokeshavings, 1½*d.* to 3*d.*; ordinary dusty to fair root, 1½*d.* to 2½*d.* per lb. Grey varieties: Ordinary thin chips, 1½*d.* to 2*d.*; fair to good strong quilly ditto, 2½*d.* to 6*d.*; rather dusty and small to good shavings, 2½*d.* to 5½*d.*; ordinary sweepings and shavings, 1½*d.* to 2*d.*; fair to good root, 4*d.* to 5*d.* per lb. Yellow varieties: Ordinary to good bright quilly stem and branch chips, 3*d.* to 5½*d.*, a few parcels 6*d.* to 8*d.*; ordinary weak papy and broken quill, 3*d.*; ordinary to fair shavings, 2½*d.* to 3*d.*; fair root, 4½*d.* per lb. *Renewed*.—Red varieties: Ordinary dull to good strong quilly chips, 3*d.* to 5*d.*; very weak and dull ditto, 1½*d.* to 2½*d.*; ordinary to fine bright spokeshavings, 2*d.* to 4*d.* per lb. Grey shavings, 4*d.*; dull to good strong quilly chips, 3½*d.* to 7½*d.* per lb. Ordinary to good quilly yellow chips, 3*d.* to 5½*d.*; dull shavings, 5½*d.* per lb. Hybrids: Original chips, 2½*d.* to 3*d.*; good renewed, 6*d.* per lb.

SOUTH AMERICAN BARK—Of 139 packages cultivated Bolivian *Calisaya* only 1 sold, at 5½*d.* for medium broken quill. Bids from 6*d.* to 8½*d.* were refused for better lots. Of about 210 packages *hard Pitayo* and *soft Colombian* bark of old import, mostly reshipped from Hamburg, 113 sold at from 1½*d.* to 2½*d.* per lb. A parcel of 105 packages Carthagena, newly imported *via* Hamburg, all the bales except 12 more or less damaged, was bought in, and 2 packages damaged *red* bark from Colon were also bought in. The following figures refer to the shipments of cinchona from Ceylon in the periods between January 1 and March 16: 1891, 1,203,257 lbs.; 1890, 1,589,776 lbs.; 1889, 1,936,512 lbs.; 1888, 1,733,002 lbs.

The following report is given of the result of the last Amsterdam auctions so far as pharmaceutical bark is concerned:—The assortment, which was exceedingly large, was a fairly good one of all grades. There were several parcels from private plantations of exceptionally good appearance and carefully dried; first quality long quill from the Government plantations realised 81 to 126 cents; short quill, 60 to 64 cents; second quality was not offered; broken quill and coarse chips, 11 bales of medium quality sold at 11 cents per half kilo. A few parcels of the barks grown on private plantations sold as follows:—*Succirubra*: Grey without moss, long quill, 40 to 52 cents; short ditto, 34 to 47 cents; smooth brown long quill, 25 to 40 cents; short ditto, 20 to 35 cents.; broken quill, no dust, 25 cents. *Lanceifolia*: Handsome long quills, 59 to 61 cents; short ones, 46 cents. *Calisaya*: Schuhkraft, long thin quill, 29 to 30 cents; *Calisaya*, one parcel of badly-dried thin quill went cheaply at 8 to 10 cents—the supply of this quality much exceeded the demand, and 343 cases were bought in; a few parcels were badly cured, and consequently had a musty smell, and the planters are particularly cautioned against any carelessness in the drying of their bark. The quill of this bark should not be rolled so as to obtain the appearance of stout quill. If carefully and regularly rolled and of good appearance, thin small quill is always in demand, but the section of it should show an incomplete circle, and not a spiral form, such as is obtained by rolling it round several times.

At the Amsterdam bark auctions on Thursday of last week, out of 7,401 packages offered for sale, 6,200 were sold, at an average price of 5½*c.* per unit (= 1*d.* per lb.). The prices paid for manufacturers' bark varied from 3*c.* to 58*c.*; ditto root, from 9*c.* to 49*c.* Druggists' bark, chips and quills, obtained 7*c.* to 126*c.*; root, 9*c.* to 12*c.* 3,604 kilos. sulphate of quinine contained in the bark were sold at 5*c.* per unit.; 5,916 kilos. at 5½*c.* per unit.; 5,666 kilos. at 6*c.* per unit.; 2,197 kilos. at 6½*c.* per unit.; 582 kilos. at 7*c.* per unit, according to published analyses. The chief buyers were the Brunswick Works, the Auerbach Works, Messrs. Matthes & Bormeester (Amsterdam), C. L. Schepp & Zonen (Rotterdam), and Gust. Briegleb (Amsterdam). On the day following the sale, most of the bought-in manufacturing barks were sold, but the prices have remained secret.

COCA LEAVES.—Thirty-five packages Java leaves sold by auction at Amsterdam on Thursday last at the following prices:—Crushed leaf, 35 to 51 cents (= 6½*d.* to 9½*d.* per lb.); rolled leaf, 30 cents (= 5½*d.* per lb.).

COCOA BUTTER.—The monthly auctions which took place here on Tuesday resulted in a decline, 500 2-cwt. cases of Cadbury's brand selling at 1*s.* to 1*s.* 0½*d.* per lb.

CREAM OF TARTAR.—Lower and dull of sale at 96*s.* for best white German crystals.

FENUGREEK SEED.—The new crop is just arriving on our markets from Morocco, and is quoted at 6*s.* to 6*s.* 6*d.* per cwt. for quantities. Egyptian seed is worth from 5*s.* 6*d.* to 5*s.* 9*d.* per cwt.

GALLS.—Dull and slow of sale. Fair China galls on the spot are worth 62*s.* 6*d.* per cwt.

GAMBIER remains very firm, with sales of block on the spot at 23*s.*, and near at hand at 23*s.* 1½*d.* April-May and May-June has been dealt in at 22*s.* 9*d.* At auctions 635 packages salvage sold without reserve, "all faults," at 20*s.* 3*d.* to 20*s.* 6*d.* per cwt.; loose and broken at 11*s.* 6*d.* to 16*s.* 6*d.* per cwt. Cubes are selling in a small way at 34*s.* per cwt. on the spot.

GLYCERINE—A rather steady market, the quotations being from 55*s.* to 56*s.* for double-distilled German, sp. gr. 1.260.

GUM ARABIC—At to-day's auctions a very heavy supply of gum was offered, and prices were generally rather easier, especially for fine Kurrachee, which declined about 4*s.* to 6*s.* per cwt., and ditto Aden, which was about 4*s.* to 5*s.* lower. Brown Amrads were firmly held; and Ghattis lower for fine, and steady for medium qualities. Mogadore and Cape gums of fine quality were not offered. For good, but somewhat brownish, Turkey sorts 10*s.* per cwt. is required; finer qualities are scarce. A parcel of about 165 packages hard sorts, from Alexandria, reported to be genuine Kordofan gum, was offered to-day, and nearly all bought in, only one lot good palish picked seconds selling at 8*s.* per cwt. For fair red to good pale Aden 44*s.* to 55*s.* was paid, and from 27*s.* down to 10*s.* for siftings. Australian, ordinary dark to good frosted, brought 38*s.* 6*d.* to 50*s.* Bombay gums sold as follows:—Brown Amrad, common dark to good pale amber, 36*s.* 6*d.* to 51*s.*; Kurrachee Amrad, ordinary red to fine picked, 41*s.* to 95*s.*; Oomra, common dark to fair palish, 25*s.* to 50*s.*; olibanum scented Aden, good bright pale, 48*s.*; common to fine pale Ghatti, 23*s.* to 54*s.* 6*d.* In Liverpool Brazilian gums are getting scarce, and selling at higher prices. We have not heard of any further business in Senegal.

GUM OLIBANUM.—At to-day's auctions the medium quality sold at a decline of 1*s.* to 2*s.*, but full rates were obtained for the better grades; fine and very fine pale picked drop realised 58*s.* to 65*s.*; ordinary to fair, 28*s.* 6*d.* to 33*s.*; common, 25*s.*; siftings and pickings from 18*s.* 6*d.* down to 12*s.* per cwt.

IPECACUANHA.—Two parcels respectively of 94 and 40 bales have arrived this week, consigned to the usual holders.

JALAP remains firm, but no business is reported this week. The last sales privately were said to have been 1*s.* 5*d.* per lb. for fair Vera Cruz, but we believe that some more money is now expected by the holders.

JUNIPER BERRIES.—The Italian market is reported to be decidedly firmer. A strong demand has set in, mainly from France, and prices are higher, 8*s.* 6*d.* to 9*s.* f.o.b. Leghorn, being now the quotation.

LEAD (ACETATE).—The combination of makers in Germany have raised the prices, and the quotations are now, for best white, 26*s.* 10*s.*, c.i.f. British port; and for brown sugar of lead, 19*s.* f.o.b., or 20*s.* on the spot.

MERCURIALS.—Unchanged. Calomel is quoted at 3*s.* 3*d.* per lb. for large, and 3*s.* 4*d.* for smaller quantities, and the other mercurials in proportion.

OIL (COD-LIVER).—Reports of the fishing in the northern districts are rather favourable, and prices decidedly lower; business in new non-congealing oil has been at 74*s.* to 75*s.* per barrel, London terms. The quotations generally run from 70*s.* for old up to 80*s.* for new oil.

OILS (ESSENTIAL).—A good demand is said to exist for Algerian *Geranium* oil. Telegrams announce a fresh advance in some brands of Italian oil of *Lemon*, but *Bergamot* and *Sweet orange* remain unaltered, though held at very firm prices. *Star-anise* oil rather lower, and offering at 6*s.* 5*d.* to 6*s.* 6*d.* per lb. *Cassia* unaltered, at 3*s.* 7*d.* to 3*s.* 8*d.* per lb. on the spot. *Citronella* offers at ¾*d.* per oz. on the spot, and

business has been done at 10½d. per lb. c.i.f. to arrive. American oil of *peppermint* is lower, at 14s. per lb. for GHG oil. Oils of *Cubeb* and *Cloves* are declining in sympathy with the raw material. News from the English *Lavender* districts speaks of an advance in the oil as exceedingly probable. It is alleged that the plants have suffered considerably from the severe winter weather.

OILS (VARIOUS).—*Castor oil*: In London the prices remain fairly steady up to 5½d. per lb. for fine pharmaceutical oil, but East Indian oil is quiet at 3½d. per lb. for fair Madras. In Liverpool Calcutta seconds are firmly held at 3½d. to 3¾d.; the French oils are unchanged. From Calcutta reports are to the effect that stocks and production are exceedingly light, and should seed for crushing continue to arrive in as small quantities as hitherto higher prices might be looked for. Fine Ceylon *Cocconut oil* in pipes has sold in London at 30s.; the c.i.f. quotations are from 28s. 6d. to 27s. 6d.; Cochin oil on the spot is worth 36s.; and shipments now due, 34s. c.i.f. *Cottonseed oil*: Unchanged; crude on the spot, 18s. 9d.; ordinary refined, 21s. 6d. to 22s. 6d.; Hull, 19s. 4½d. for refined, 18s. 1½d. for crude. The Liverpool market is quiet, but steady; American at 22s., and Liverpool refined at 21s. 6d. to 22s. 3d. per cwt. American *Salad oil*: Fine quality has advanced in price to 2s. 9d. per gallon (152 gallons to the ton). *Linseed oil*: Quiet, at 21s. 10½d. to 22s. 1½d.; Hull, 20s. 9d. to 21s. 1½d.; and Liverpool, 23s. 3d. to 23s. 6d. for export casks. The position of olive oils, so far as eating-oils are concerned, is unaltered. From Italy it is reported that there is rather less business doing, although no reduction need be looked for, as large quantities have been sold for delivery. Cargo oils remain firmly held and dear: Spanish, 43s. to 44s.; Messina, 41s. to 42s.; Mogadore, 38s. to 39s. *Palm oil*: Rather slow of sale; fine Lagos, 27s. in London, and little business doing in Liverpool at 25s. 9d. in trans-shipment. *Petroleum*: Quiet; American, 5½d. to 5¾d.; Russian, 4¾d. per gallon. *Rape oil*: Firmly held; 29s. for brown, 30s. 6d. for refined oil. In Liverpool the quotations are: refined Stettin, 34s. to 34s. 6d.; English, 31s. 6d.; French, 32s. 6d. *Turpentine*: Rather higher; 29s. 3d. has been paid for American on the spot.

OPIUM.—The London market is exceedingly quiet, and business is done in small lots only. Fine druggists' opium is rather scarce, and sales are reported at from 10s. to 11s. per lb., according to quantity; second druggists' is worth 8s. to 9s.; soft shipping, fine, 11s. 6d. to 13s., at which quotation sales have been made; and second quality, fit for shipment, at 9s. to 11s. *Persian* quotes at 10s. to 12s. 6d. per lb., and manufacturing opium runs in price from 10s. 6d. downwards to 4s. 6d. per lb. We are in possession of the following report from Smyrna dated March 28:—"No decline has place in our opium market this month; on the contrary, prices have somewhat hardened owing to the continuance of dry weather, and it is feared that unless we have a speedy rainfall the crops in general will be seriously injured. Moreover, now that the snow has all melted in the upper districts, it has been ascertained that about one-third of the crop has been destroyed. It is, nevertheless, as yet too early to pronounce any final opinion as to this year's probable outturn, as the spring rains may set in at any moment, in which case the present unfavourable outlook will be entirely changed, and the crops in general may turn out well, although, perhaps, not so large as was originally expected. The sales during March did not exceed 70 cases, the last prices paid being—for new Karahissar, 9s. to 9s. 1d. per lb., f.o.b.; Yerli talequale, 8s. 9d. to 8s. 10d. per lb., f.o.b.; selected talequale, 8s. 5d. to 8s. 6d. per lb., f.o.b.; usual run talequale, 8s. 3d. to 8s. 4d. per lb., f.o.b."

ORRIS ROOT.—Italy still reports a rising market, stocks becoming smaller every week. Selected Florentine root is quoted at 95s. to 100s. per cwt. f.o.b. Leghorn, second quality at 77s. 6d. to 90s., and Verona root at from 40s. to 57s. 6d. per cwt.

QUICKSILVER.—The market remains unchanged, the principal importers quoting 8l. 5s.; while second-hand holders offer at 8l. 3s. Five thousand bottles have been imported from Spain this week, and 500 from Italy.

QUILLATA.—Much dearer again. The steamship *Gulf of Akaba*, which arrived from South America in Liverpool, brought about 330 hales, but these were all sold before arrival at prices ranging from 23s. to 27s. per cwt. It is said that as much as 30s. has been paid for one ton, but for forward delivery there are offers of 25s. 6d., c.i.f.

QUININE.—This market has been quiet this week, but yesterday a transaction of 20,000 oz. usual speculative German brands was reported at 10d. per oz., which would mark a decline; the transaction, however, has not been confirmed, and since then we hear that 2,000 oz. have sold at 10¼d., and 1,000 oz. at 10½d. per cz.

SHELLAC.—Last week closed with a rather steady demand, especially for Garnet and hutton lacs, with some sales of "superior" button at 79s., second ditto at 74s., and thirds at 70s. per cwt. Unworked AC garnet sold at 67s. per cwt. on the spot. At the auctions the considerable supply of 1,980 cases was offered, of which 763 sold at an irregular decline. Orange lac was 1s. to 2s. lower, the commoner qualities suffering least decline. Button lac declined 2s. per cwt. The following prices were paid:—Orange lac: fine bright pale matted, unworked, 72s. to 73s.; fine worked hlock, 70s.; ordinary reddish to fair palish, 63s. to 65s.; common livery to ordinary, 60s. to 64s. Button: ordinary to good firsts, 73s. to 75s.; ordinary seconds, 71s.; hlock, 68s.; and dark thirds to common, from 61s. down to 55s. per cwt. All the garnet lac catalogued was bought in; but since the auctions retail sales are reported at 66s. per cwt., showing a decline of 1s. per cwt. Privately the market is steady, with a fair amount of business at unaltered rates. From Calcutta we hear, under date of March 18, that the sticklac prices are reported to be greatly in excess of the current market value orange and hutton lacs. Heavy rains and hailstorms are said to have caused great damage to the Bysacki crop; but other reports state that these rumours are by no means generally believed.

SODA (HYPOSULPHITE).—The price has again been raised 10s. per ton, and quotations now run according to packages at 7l. to 7l. 10s. per ton f.o.b. Continental port, net cash. There is a strong inquiry, and makers are reported to be full of orders until July.

SPICES.—Arrowroot remains steady of sale, with sales of fair to good St. Vincent at 2½d. to 2¾d. Capsicums: a parcel of 90 bags fine fresh, small red Cochin, no stalks, was partly disposed of by auction at 30s. per cwt. Cassia Lignea: flat and cheaper—37l. boxes having sold, without reserve, at 22s. to 22s. 6d. (one lot 23s.) for whole, and 17s. for broken quill. Chillies slow of sale; all the Zanzibars and Sierra Leone parcels offered at the weekly auctions were bought in. Cloves remain very dull, with some business for delivery—April-June shipment—at 3½d. per lb. At auction only 17 bales sea-damaged Zanzibars sold at 3¾d. to 3½d. per lb. Penangs are in rather better demand, and realised higher prices at auction—fine bright picked up to 1s. 2½d.; fair to good unpicked, 5¼d. to 6½d. per lb. Cochin ginger sells slowly at irregular prices—rough, small to medium plump washed at 34s. 6d. to 36s.; medium to hold native cut at 41s. 6d. to 42s. per cwt. Jamaica ginger in good supply, and from 3s. to 5s. cheaper. Rhaton sold at 60s. to 62s.; rough common to medium, 64s. to 67s.; medium to good bright medium, 70s. to 77s.; fine to good hold bright picked, 85s. to 91s. per cwt. *Mace* and *Nutmegs* remain steady but quiet. *Black pepper* has been dull and easier for delivery and is also lower on the spot with sales at the auctions at the following prices: Greyish Singapore, 4¾d.; fair Lampong, 4d.; dull to good clean Tellicherry, 4½d. to 5d. per lb. White pepper also cheaper: fair Penang at 5½d. to 5¾d.; fair to fine bold bright Singapore at 7¼d. to 8¾d. per lb. Pimento has declined in value, and at the auctions about 1,000 bags were forced off at 2½d. to 2¾d. per lb. for very common to good. To day further sales are reported at these quotations.

SULPHUR.—Prices have now declined somewhat, and quotations are 8l. 15s. for flowers, and 7l. 15s. for roll and ground sulphur on c.i.f. terms.

TEA.—There is a better tone generally this week in tea, and country buyers who have held off week after week, in

the hope of getting prices down, are finding their stocks very low, and are being driven into the market again, and though buying is from hand to mouth, it is sufficiently general to make a fair volume of trade. Congous are unchanged, though perhaps very commonest Kaisow may be quoted a shade lower at $5\frac{1}{4}d.$ Better sorts of Oonfa, Ningchow, Panyong, and Soomoo about $7d.$ to $7\frac{1}{2}d.$ are being bid for freely, and going into consumption, showing splendid value against Ceylons and Assams. The supply of Assam is small, and very firm rates have been obtained; few teas under $11d.$, the terminal market showing a point or two higher. Ceylons, however, sold easily for lower grades on Tuesday, and fair liquoring teas from $8d.$ to $9d.$ show a distinctly lower quotation, and will be taken readily in the absence of Assams at this price.

TONQUIN BEANS.—For *Angostura*, of good quality, $5s. 9d.$ to $6s.$ per lb., c.i.f. terms, is asked.

TURMERIC remains very firm. At auction 96 packages sea-damaged Bengal sold at $13s. 6d.$ to $14s. 9d.$ per cwt. Privately there has been business in the same variety, ordinary to fair quality at $15s. 6d.$ to $16s.$ per cwt. One hundred and sixty-three packages Cochin bulbs were bought in at the auctions.

WAX (BEES').—All kinds continue to be in strong demand. Good yellow Madagascar is quoted at $6l. 10s.$ per cwt.

WAX (JAPAN).—A quiet market. Privately good pale squares are selling at $42s.$ to $43s.$ per cwt. in retail lots.

CHEMICALS IN THE NORTH OF ENGLAND.

THE general feeling in the chemical market is one of quietness. This is more especially the case in the Tyne district, where the quantity of chemicals shipping is much below last year's shipments, as will be seen from the following return of exports from the Tyne to foreign countries and British possessions (but not including coastwise shipments), for the three months ending March 31, and corresponding quarters of the two previous years:—

	1889	1890	1891
	Tons	Tons	Tons
Alkali and ash	2,702	3,704	2,644
Bicarbonate of soda	26	24	1
Bleaching-powder	3,911	6,424	3,050
Soda crystals	2,989	3,303	2,103
Sulphate of soda	187	1,107	504
Manure	1,963	2,955	1,649
Caustic soda	—	2,544	2,702
Other chemicals	3,761	2,367	4,766
Total	15,539	22,428	17,394

THE BOARD OF TRADE return of British exports for the whole of the Kingdom for the same period shows a decided increase in alkalies and a slight reduction in the quantity of bleaching materials exported in 1891 as compared with the corresponding quarters of 1889 and 1890.

BICARBONATE OF SODA unchanged at $7l.$ per ton in 1-cwt. kegs, f.o.b. Liverpool, prompt delivery.

BLEACHING-POWDER steady at $6l. 15s.$ per ton in softwood casks, and $7l.$ per ton in hardwood casks, f.o.b. Liverpool; and $6l. 12s. 6d.$ per ton in softwoods, free on rails at Widnes and St. Helens. Rather more doing in Tyne market at $6l. 15s.$ per ton in softwoods, and $7l.$ per ton in hardwood casks.

CAUSTIC SODA very steady at $12l. 10s.$ per ton for 77-per-cent., f.o.b. Tyne; 74 -per-cent., $12l.$ per ton; 70 -per-cent., $11l.$ per ton; 60 -per-cent., $9l. 15s.$ per ton; cream, 60 -per-cent., $9l. 10s.$ per ton—all net cash, f.o.b. Liverpool, with $2s. 6d.$ rail allowance if taken at makers' works.

CHLORATE OF POTASH quiet at $5\frac{1}{4}d.$ per lb., less 5 per cent. discount, at usual ports of shipment.

HYPHOSULPHITE OF SODA very steady, and advance maintained; $7l.$ per ton in casks, and $7l. 10s.$ per ton in kegs, net cash, f.o.b. Tyne, for large quantities.

SODA ASH.—Good inquiry in Tyne market, and makers quote $1\frac{3}{4}d.$ per degree, less $3\frac{1}{2}$ per cent., f.o.b. Tyne. Liverpool market firm at $5l. 2s. 6d.$ per ton for 48-per-cent., and $5l. 11s. 3d.$ per ton for 52-per-cent. caustic ash; $5l. 7s. 6d.$ for 48-per-cent., and $5l. 16s. 3d.$ per ton for 52-per-cent. carbonated ash, net cash, f.o.b. Liverpool.

SODA CRYSTALS continue quiet, but steady in price; $3l. 7s. 6d.$ per ton on rails at makers' works, and $3l. 10s.$ per ton, f.o.b. Liverpool, and $2l. 16s.$ per ton, f.o.b. Tyne.

SULPHATE OF COPPER still quiet at $16l. 5s.$ to $16l. 10s.$ per ton, f.o.b. Liverpool.

SULPHATE OF SODA unchanged at $40s.$ to $42s. 6d.$ per ton in bulk at Widnes and St. Helens, and $42s. 6d.$ per ton in bulk f.o.b. Tyne.

GERMAN MARKETS.

HAMBURG, April 7.

THE general tone of the market remains languid in the extreme, and a number of our articles have again declined in price. The transactions are only of a retail character.

ANTIMONY (CRUDE JAPANESE) remains unchanged, and is offering cheaply. Nevertheless, there is scarcely any demand for the article.

BALSAMS.—*Copaiba*: the newly imported parcel of 35 cases Maracaibo has been sold at high prices, but in general the quotations for the article are slightly lower, and New York is also offering freely. *Peruvian balsam* maintains an advancing tendency; it appears that this article is now altogether controlled by the speculators, who stand out for high prices. Almost all floating lots are consigned to them, and for fine quality 12m. has to be paid.

CAMPHOR.—Both crude and refined remain firmly held but there does not seem to be much confidence in the soundness of the position of this article. Refined may be had at 3.90m.

CEVADILLA.—The latest arrivals of this seed have been taken out of the market at high limits.

CITRIC ACID.—Lower, and obtainable at 3.50m. on firm orders.

GALANGAL.—Firmly held, and not obtainable under 32m,

JALAP.—About 60 packages, just imported, have been sold to the second-hand. Really fine Vera Cruz root remains scarce and dear.

MENTHOL.—Without any animation, and no transactions to report.

QUININE.—Exceedingly dull, and without any speculative demand.

SARSAPARILLA.—*Honduras* is firmly held at the recent prices, while there is a demand for good *Vera Cruz* root, which readily realises full values.

WAX (BEES').—All lots as they arrive bring high prices; for Chilian 132m, and for Mozambique 122m. is being paid.

WAX (CARNAUBA).—Quiet, but well maintained in price; fine yellow at 155m, and grey at 120m.

WAX (JAPAN).—Without business; fine quality, on the spot and for delivery, 84m. to 85m.

ACCLIMATISATION OF DRUGS IN CEYLON.

IN his report for 1890, which has just been received, the director of the Ceylon Botanic Gardens reports as follows upon the introduction of new drugs into the island:—

GAMBIER—A Wardian case containing nineteen plants of this was received from Singapore at the end of May: five were dead on arrival. Of the rest, three were planted out at Péradeniya, where they have all gradually died, and eleven sent to Henaratgoda, where there seemed a better chance of their surviving. At the end of the year there remained six plants living, of which five are healthy, and likely to do well. The acquisition of this interesting plant is thus at last accomplished. It is, however, clearly very fastidious and difficult to propagate; but it ought to succeed in our hottest and wettest districts. Naturally an extensive climber, it is in cultivation kept down by cutting, so as to form a low bush of 5 or 6 feet.

CUBEBS.—I am unable to report any further progress in my endeavours to obtain this plant which still remains a desideratum. Recently a Java planter has been advertising plants for sale, but I am not aware whether any have been received in Ceylon from him.

KOLA NUT.—I received from the Botanic Garden in Jamaica a box containing 190 seeds, which have germinated well, and will, I hope, succeed. I shall be glad of a stock of young plants, as the only two trees we possess at Henaratgoda, though now seven years old, have not as yet flowered.

NUTMEGS.—A rather large sale of seed has been made during the year at Péradeniya, where our grove of old trees continues to yield large crops throughout the year. Several planters in the low country are now taking up this cultivation seriously. Judging from our experience here, it can scarcely fail to be a very profitable one when the trees once reach full bearing.

CHINESE GINGER.—In my report for 1885 I recorded the receipt from Kew of the roots of the plant said to afford the familiar "preserved ginger" of commerce so largely exported from China, and remarked that it was clearly quite distinct from the ordinary ginger-plant. As it has never made any attempt to flower with us, it has been impossible to determine its name with any kind of certainty, though it appeared to be a species of *Alpinia*. A few years ago, at the request of Mr. Ford of the Hong-Kong Botanic Garden, I sent a specimen to that garden, and Mr. Ford now informs me that it has flowered with him, and proves to be nothing but the common and well-known *Alpinia Galanga*. This, the "kaluwala" of the Sinhalese, is commonly grown in all native gardens, and flowers here freely. On a comparison of the foliage of the two plants I can certainly see but very slight differences, the leaves of the Chinese ginger being merely somewhat shorter and broader, of a thicker texture, and darker in colour especially beneath. The rhizomes are identical, and both have the taste well described by Roxburgh as a "mixture of pepper and ginger accompanied by some degree of bitterness." The Sinhalese use the rhizomes in native medicine, but never as a condiment. According to Hanbury and other writers this is also the "Java Galangal," or "Greater Galangal," of the London drug-market, and the "Galanga major" of the old pharmacists. It is a little difficult to believe that the "preserved ginger" of commerce is the produce of the same plant, especially as the rhizome has not the appearance of the commercial article; and I cannot help suspecting the possibility of a mistake having been made when originally sending the plant to Kew.

AMMONIA SOLUTION.—The best method for preservation of ammonia solution in bottles is a common cork covered with a piece of cheese cloth, and this covered with a piece of paraffin paper. An ordinary glass stopper is totally insufficient to prevent some of the vapour from escaping, while the dark coloration produced by contact of the ammonia with cork tissue alone renders the use of corks objectionable.—*Am. Jour. Phar.*

LONDON DRUG STATISTICS.

THE following figures refer to the stocks of drugs in the port of London on March 31, 1891 and 1890, and to the imports and deliveries during the first three months of the same years.

Article	Stocks		Imported		Deliveries	
	1891	1890	1891	1890	1891	1890
Aloes . . .os & pkgs	8,724	9,674	455	2,178	1,466	1,342
"gourds	1,224	1,261	94	63	45	146
Anise, star . . .chts	353	71	425	—	119	—
Arrowrootcks	7,720	11,771	4,241	4,660	4,350	4,100
"bxs & tins	1,672	4,992	108	84	630	1,185
Balsamscks, &c.	2,139	2,345	226	188	255	287
Bark (Cinchona), S.American cases	419	432	18	2	7	32
"bls, &c.	25,223	29,486	3,034	2,294	4,010	4,294
E.I., Ceylon, and Javaca	301	485	123	225	175	141
"bls.	27,901	24,506	14,903	12,914	11,286	12,684
Boraxpkgs	261	377	10	21	10	121
Calumba"	1,133	1,717	17	161	193	378
Camphor"	2,917	862	418	2,954	3,099	2,155
Cardamoms . . .chts	633	1,605	547	1,124	535	844
Coc. Ind. bgs, &c.	175	108	—	—	50	64
Cream of Tartar .cks	10	10	—	—	13	—
Cubebsbgs	187	169	76	—	132	140
Dragons' Blood .chts	97	128	58	29	55	45
Galls, China, &c. os	1,222	2,908	205	2,541	1,064	662
Tuky & Prsn . . .cks	2,227	3,519	1,430	1,431	2,668	1,649
Gums—						
Ammoniac pkgs	48	73	4	1	19	19
Animi & Copal pkgs	5,931	7,110	2,522	2,222	5,029	4,659
Arabic"	16,579	20,589	5,515	6,602	6,231	7,928
Asafoetida . . ."	806	353	20	—	44	58
Benzoin"	3,089	2,053	892	917	723	992
Damar"	6,088	6,004	1,144	3,089	1,588	2,277
Galbanum . . ."	39	49	31	24	22	9
Gamboge"	41	41	74	46	63	68
Guaiaicum . . ."	78	18	109	1	62	2
Kino"	27	72	—	—	8	45
Kowrietins	598	1,287	573	751	711	814
Masticpkgs	29	24	36	—	25	3
Myrrh"	461	344	248	35	211	139
Olibanum . . ."	4,178	5,788	1,224	3,373	1,546	1,324
Sandarac . . ."	375	676	375	299	203	305
Tragacanth . . ."	5,300	6,596	2,104	1,058	2,234	1,840
Guttapercha . . .tins	2,238	2,150	801	1,076	610	426
*Indiarubber, E.I.tins	294	179	326	101	222	190
Madagascar . ."	89	28	85	49	87	15
S. American . . ."	56	27	48	55	45	68
African, &c. . ."	220	196	86	195	152	280
Ipecac.cks & bgs	57	139	118	352	312	395
Jalapbls	50	70	46	19	105	20
Lao Dyechts	5,093	5,650	—	—	1	39
Myrobalams . . .tins	869	3,096	527	2,536	1,256	3,970
Nux Vomica . . .pkgs	636	259	543	806	452	465
Oils—						
Aniseos	56	41	71	53	18	15
Cassia"	148	54	25	180	32	156
Castorcks	151	403	243	284	254	302
"os	3,733	4,367	3,373	2,717	1,517	1,565
Cocoa-nuttins	664	2,184	887	1,110	1,250	1,542
Olivecks, &c.	572	1,597	953	2,331	1,026	1,522
Palmtins	7	25	13	27	11	21
Rhubarbchts	782	650	260	236	318	435
Safflowerbls, &c.	329	404	—	36	46	85
Sarsaparillabls	257	297	238	314	288	295
Sennabls, &c.	3,546	3,441	859	2,058	1,224	1,772
Shellac, Orange chts, &c.	33,290	37,425	8,911	5,154	11,639	8,559
Garnet"	2,345	6,398	1,465	50	3,161	3,944
Button"	6,153	5,290	3,727	1,975	3,070	2,546
Totaltins	41,788	49,113	14,103	6,880	17,870	14,619
Sticklaccks, &c.	1,556	2,790	—	10	715	295
Gambiertins	1,505	1,120	3,359	2,637	2,768	2,204
Cutch"	3,580	2,251	1,294	169	629	495
Turmeric, Beng. tins	789	1,282	—	10	139	123
Other varieties, "	419	916	16	4	197	243
Totaltins	1,208	2,198	16	14	336	366
Vermilion, chts, &c.	71	19	40	42	2	42
Wax, bees'brie & srns	241	337	265	126	844	563
"cks & os	540	872	239	465	587	552
"oakes	14	24	6	—	6	—
Japanpkgs	890	1,641	75	237	367	241

* Present stock in Liverpool of Pará 932 tons, other sorts 430 tons—total 1,362 tons, compared with 1,442 tons in 1890, and 2,691 tons in 1889.

† The stock of anise and cassia oils at Smith's wharf and Brewer's quay are not included in this return.



Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish: if you do not, please use a distinctive nom-de-plume.

Write on one side of the paper only; and devote a separate piece of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

You send us newspapers, please mark what you wish us to read.

Ask us anything of pharmaceutical interest: we shall do our best to reply.

Before writing for formulæ consult the last volume, if you have it.

Letters, queries, &c., will be attended to in the order received.

Thoughts on Extracts.

SIR,—I have read Adrian's book on extracts, recently noticed in THE CHEMIST AND DRUGGIST, with interest and advantage. The scope of this work is clearly indicated by the title, and the claim of the author, put forward with becoming but (it may be) excessive, modesty, in the concluding paragraph of the text, may be conceded without hesitation.

Closing the book, one cannot avoid a feeling of regret that a pharmacist so practised, so experienced, and so observant, has not ventured to be a little more original—not less historical and descriptive, but more critical and speculative, more inclined to advance his own views and conclusions: they would, without doubt, be both instructive and valuable.

The chief lesson (and Adrian is by no means first in this) taught by the perusal of the *Study* is that the Alpha and Omega of all workers in pharmacy has been to extract the active principles (proximate or definite) of drugs, with a minimum of exposure to air and heat, lest their principles should be altered and modified to their prejudice, or even destroyed. The truth which underlies this expression is, no doubt, of general application, and in some instances may be easily proved—e.g., malt, pepsin preparations, ergot, preparations containing the mydriatic alkaloids, aconite, and in a less degree, the bitter principles of drugs which by continued application of heat are resolved into sugar and less bitter bodies. As instances of the latter, gentian and taraxacum may be advanced. On the other hand, liquorice loses sweetness and acquires a bitter or acrid taste under the same treatment. Of the great majority of drugs, however, it is not possible to use the expression with absolute certitude, for as yet, we are quite without the results of any scientifically-conducted series of experiments comparing the action of drugs with that of their preparations; we have only the general and natural inference that a process which does not destroy or diminish the aroma and taste of a drug is not likely to affect less fugitive constituents. On the other hand, it must be remembered that heat has on some preparations a distinct purifying influence, and by causing the removal of inert but changeable compounds, enables us to obtain products of a more stable character.

These considerations have impressed practical pharmacists who feel more than a merely commercial interest in their vocation with the advisability of standardising preparations. Good work has been done quietly in this direction. Much more remains to be done, and so long as the task is left to those who can only on occasion apply themselves to it, many years must elapse before any important advance is made. The first step is to ascertain beyond doubt to which principle or principles the activity of a given drug is due. Where an alkaloid is recognised as the active principle the next step is comparatively easy. Standardised preparations of opium, nux vomica, and cinchona are in evidence; hyoscyamus, aconite, and belladonna ought to rank with them. Ergot presents more difficulty, because, although several principles (varying, apparently, with the process) have been separated by different investigators, neither pharmacologists nor pathologists are agreed amongst them-

selves as to which principles, or association of the same, endow the drug with its peculiar properties. Drugs still less definite, containing principles which persistently overlap and apparently change into each other under treatment (pareira, cascara, gentian, chamomile, &c., may be cited), present yet greater difficulties, but they need give no present concern. Many lighter tasks await the worker, and will occupy him for a long time to come.

Here are problems awaiting the Research Laboratory. What better or more useful work could it perform? I do not forget belladonna and nux vomica, but what are these among so many?

Galen Works, S.E.

Yours, &c.,

JOHN MOSS.

Pharmaceutical Etymology.

SIR,—I should very much like to know who is Mr. Seaton's authority for the derivation of the word chemist from "*Chemia*," the Greek name for Egypt." I have always understood that *Chemi* (from Ham or Cham—the names are the same) was the native Egyptian name of the country, and none of the authorities I have at hand suggests any connection between it and "chemistry." Mr. Seaton's derivation surprises me the more because I find no hint of it in Skeat, whom for the most part, he follows very closely.

Skeat's article on the word runs thus:—"Alchemy, the science of transmutation of metals. (French, from Arabic, from Greek.) Chaucer has *alkamistre*, an alchemist; C. T. Group G, 1,204. The usual middle English forms of the word are *alhenamy* and *aleconomy*; P. Plowman, A. xi 157; Gower, C. A. ii. 89, from old French *alchemia*, *arquemie*; see *arquemie* in Roquefort; from Arabic *al-kimiya*, in Freytag, iv. 75 b; a word which is from no Arabic root, but simply composed of the Arabic def. article *al*, prefixed to the late Greek *chemia*, given by Snidas (eleventh century). From late Greek, *chemeia*, chemistry, a late form of *chymeia*, a mingling. From Greek *cheein*, to pour (root *chu*); cognate with *fundere*. From Aryan root *qau*, to pour out; Curtius, i. 252; Fick, i. 585. See CHEMIST."

"Chemistry" is, of course, the same word as "alchemy," without the article *al*. Mr. Seaton says that it may be spelt either with a "y" or an "e"—that neither is "certainly right" or "certainly wrong," since the spelling depends upon the etymology. This is a somewhat curious statement, for only one etymology can be "certainly right," and it would seem that a spelling which points to a different etymology must be "certainly wrong."

My extract is from Skeat's larger dictionary, but its substance is given in the smaller one, the "Concise Etymological Dictionary." May I, in conclusion, recommend this marvellously cheap work, the best handy guide to English etymology in the language, to such of your readers as are interested in the subject? It is published by the Clarendon Press at 5s. 6d.

I am, &c.,

Epworth, April 6.

C. C. BELL.

P.S.—Can any of your antiquarian readers tell me what "*Tinct. patiros*" is? I have a bottle so labelled on my shelves.

SIR,—The subject of pharmaceutical etymology should possess an interest for all your readers; to those amongst them who have done anything, however little, in philology the interest is, of course, greatly enhanced. Having read the papers which have recently appeared in THE CHEMIST AND DRUGGIST, as well as your own very discriminating article of March 28, with great pleasure, may I be allowed, with deference, to indicate two or three instances in which I think there is room for doubt, and upon which, in my opinion, the last word has not been by any means spoken?

Before doing this, I should like to observe that in philological matters there is nothing more hazardous than to make a positive assertion. Philology is not, at present at least, an exact science and the most that one can possibly do, in many cases, is to carefully weigh conflicting evidence, and be guided by what appears to be a balance of instructed opinion.

For instance, Mr. Hyslop inferentially derives "aconite" from the Greek *akoniton* (without a struggle), in allusion to

the deadly effect of its poison. Mr. Seaton says, positively, that: "It was so named, not because it was a sharp poison, but because it grows *en akonais*, on steep, sharp rocks." Now, this is a case in which there is plenty of room for doubt, and, in my opinion, the great weight of evidence is in favour of Mr. Hyslop's rendering. Mr. R. C. A. Prior, than whom there is no more reliable authority, inclines strongly to this derivation. There is also a weighty physical argument in support of it. A moment's consideration is sufficient to convince one that so robust a plant could hardly derive sufficient nourishment from "steep, sharp rocks." As a matter of fact, I believe the aconite is usually found growing in Alpine meadows, at the foot of the mountains. Amongst other, and more doubtful, derivations is that of Theophrastus, who says the word comes from *Akonai*, the name of a village near which the plant grew. Pliny suggests that it is taken from *a*, not, *konis*, dust—"Nullo juxta ne pulvere quidem nutriente." Ovid, Met. vii., 419, is, I believe, responsible for Mr. Seaton's theory.

Again, with regard to the word "dandelion" there is a wide difference of opinion amongst the best authorities. Prior mentions some half-dozen guesses as to its origin. Our word is no doubt a corruption of the French *dent-de-lion*, but this is from the older Latin *dens-leonis*, as shown in French botanical works. The name of "dens-leonis" appears from Prior to have been originally given to this, or to another plant—for even this is uncertain—by a Master William in his "Cyeorgi," a work on surgery published in Augsburg, 1486. (See "Ortus Sanitatis," ch. 152.)

There is no fruit familiar to pharmacists with a more interesting, and, at the same time, more doubtful, history than the mulberry. It was introduced into Italy probably through Magna Græcia, and was thenceforth called *Morus*. But it had been known in the East many centuries before this time, and the story of Pyramus and Thisbe related by Ovid is an Asiatic legend often applied to other plants. The true mulberry was for centuries so confounded with the sycamore that it is impossible to be quite certain to which tree the frequent allusions of the Greek writers refer. In any case, I believe the word comes through the Greek *morou*, from *sykomoros* (sycamore), and this direct from *shikomot*, the word used in Holy Scripture to denote the sycamore (plural). Diodorus says: "There are two sorts of sycamines, one of which bears mulberries, and the other a fruit like figs." Galen says: "I would rather say *morou* than *Sykmaminou*, like the Attic writers of six hundred years ago; he is a fool who thinks more of so-called correct language than of a healthy life." Professor Hehn remarks as a curious fact that the modern Greeks say *sykamena* as well as *morea*. By the way, is not Mr. Hyslop going far afield in tracing the Latin *lactis* to a Persian origin? Is it not directly from the Greek *galaktos*, milk?

Yours very truly,

Stapleford, Notts.

J. HENRY BELL.

Mistura Olei Ricini.

SIR,—As several communications have appeared in your columns on this subject, it occurred to me that my experience with the same preparation in this part of the world might not be uninteresting.

Having occasion recently to prepare this article, I, out of curiosity, and in defiance of the indolent custom of the East, mixed the ingredients myself, according to the B.P. directions. Having done this very carefully several times over without being able to produce a satisfactory mixture, and having in doing so worked myself into a state of perspiration quite incompatible with Eastern dignity, I wrote out the formula, *without the directions*, on a slip of paper, and directed one of my native assistants to dispense it, while I watched to see his method.

He mixed the oils with the potash in a mortar, incorporated the syrup, and then gradually added the orange-flower water, stirring all the while. The result was a perfect emulsion, creamy and inseparable. He received no instructions from me, and worked entirely at his own hand.

I may mention that the temperature at the time was about 85° F. in the shade—a fact which may make some difference in the result.

I am, &c,

THOMAS STEPHENSON,

Byculla, Bombay, March 20. Pharmaceutical Chemist.

A Capital "P"?

SIR,—A few days ago I was waited upon by a canvasser asking for the renewal of an advertisement in a local guide-book. The slip he presented contained the word "pharmacist" printed with a small "p." Asking the reason for this, I was informed that "pharmacist," being only a common noun, did not require a capital letter! Then what did he do in the case of doctors and solicitors? Capital letters, of course! "Then have the goodness to print 'pharmacist' with a capital, or omit the advertisement. Do you know that pharmacist is a Parliamentary title, to be obtained only by passing stringent examinations, and witnessed by the grant of a diploma?" He of course knew nothing about it, though he was apparently an intelligent person, with more than the usual knowledge of the world.

This incident leads one to ruminate on the twaddle one has to listen to about the improved status of the chemist. My experience of forty years teaches me the contrary. The old chemists in my neighbourhood were men of a social status superior, if anything, to that of their successors in the present day, and, speaking generally, of better origin.

As regards our titles, not 5 per cent. of the public understand the difference between pharmacist and chemist and druggist. Perhaps as many as 20 per cent. of the medical profession have some glimmering perception of a distinction, of which they know little and care less.

A life-time spent behind a druggist's counter is not conducive to self-assertiveness, but still one would expect in our conscript fathers enough of it to cause them to make the attempt to prevent from piracy our Parliamentary titles.

T. B. G.

Chemists' Windows.

SIR,—A correspondent of yours, "Summer Bird," has protested against the slovenly arrangement of some chemists' windows. The writer uplifts his voice against the coarse, vulgar, and indecent arrangement of other chemists' windows. What right has a man to obtrude on the public gaze things relative to private operations, and offend good taste thereby? And yet many a chemist will and does unblushingly cram his shop-window with bedroom appliances, sanitary towels, and sanitary paper. Hitherto the appearance of the butcher's shop has been accepted as a necessary evil, but only as such. No such tolerance should be accorded to the chemist who has the bad taste to offend in the way alluded to. There are certain things that are necessary—there are certain things that are beneficial, but it is, all the same, a vulgar proceeding to parade them ostentatiously before the public view. There is so much that is beautiful and decorative in connection with a chemist's stock-in-trade to take their place that there can be no excuse for it.

I trust you will find room for this protest, because, unless the evil be remedied, sooner or later there will be a public trade against it which may do great harm to many a chemist who meant no harm, though not blessed with sufficient intuitive delicacy to avoid giving public offence.

Yours truly,

April 4.

A DISGUSTED MERCHANT. (16/40)

Mysterious.

SIR,—My name is Jonah. I am a disappointed Jonah. I thought I was going to make a big pile out of physic. I invented all sorts of nostrums for the benefit of the public, but somehow they did not catch on, and now I think I will open a chemist's shop for their benefit, so with your permission I will ask the readers of your valuable journal a question or two. I want to know what charge to make for exhibiting advertising tablets on my windows. I do hope no one will tell me it is done gratis, or there will be a funeral. I also want to know how to treat the various wholesale houses who give a bounty to our "cutters" by advertising in the price-lists they issue. I notice some of them who make the biggest noise about protecting the legitimate chemist and druggist are the worst offenders.

JONAH. (17/45.)

A Chemists' Assistants' Union.

SIR,—I notice in your last issue your reprint of "Abel Drugger's" letter from the *Star*, and your almost despairing note on it. No doubt what "Abel Drugger" states (and many others before him) is perfectly correct. We chemists' assistants have a monopoly of the longest hours, and are about the worst paid of any of the professions.

Two causes seem to operate against an increase of pay: first, the material of which chemists' assistants are generally made; and, secondly, the low value which what I may call "learned" labour commands.

The latter cause is one which little can be done to remedy, but which bears with it the consolation (?) that there are worse in the boat with us, although we may row stroke.

The former arises from the fact that such a large proportion of chemists' assistants is drawn from the ranks of semi-well-to-do people—sons of the nonconforming clergy, small grocers and wine-merchants, sea captains, and so on—people who can generally afford their children a decent education and a start in business, but who shrink from the expenses attendant on university training. I speak here particularly of England. In Scotland another system holds good, and the emphyronic pharmacist more often than not gets a weekly consideration for his efforts to keep things bright, as well as learning his business, thus lowering in a slight degree the social status of the body. For instance, of about twenty English assistants I have met, ten were ministers' sons, four grocers' sons, two sea captains' sons, two sons of non-executive naval officers, one an unfortunate doctor's and one a chemist's son.

Of about the same number of Scotch assistants, thirteen were sons of superior artisans, mechanics, &c., three sons of crofters, two chemists' sons, one clerk's son, and one owned for his male parent a hardy Northern fisherman. Lest I should tread on the corns of any fiery Scot, let me say I found his countrymen quite as well informed as any southerner, and more steady.

Seeing the class from which the young men are drawn, it is not surprising to find they think more of a comfortable home and an opportunity of learning a bit than of the money equivalent for their services. Thus the employers reap the benefit, and it is, or rather was, no uncommon thing to see in either of the trade journals such an advertisement as—"Wanted, a gentlemanly assistant, good counterman, neat dispenser, steady and obliging. Salary 30%, indoors, comfortable home in healthy locality.—Apply," &c.

What sarcasm the "healthy locality" must have seemed to the unfortunate pill-huller when he had completed his ninety-second hour of weekly toil!

Although the long hours "Abel Drugger" complains of in many cases fall as heavily on the employer as the assistant, and although they are; mainly the outcome of not only public indifference, but also of that mutual distrust and want of cohesion peculiar to chemists and certain other trades, still there is a lot to do in mitigating assistants' hours, and helping them in their upward struggle which could be done if they only set about it. I say now is the time to do it, now the tide is flowing in their favour, and it will be their fault if they don't seize it. A paper is hardly the means to this end. A paper is all very well in its way, but all its dicta, its reforms, and its being are on paper, and apt to drift away in tobacco-smoke.

What I would propose is an association of assistants, with a central council and branches, or representatives in each large town or district; a sort of union, in fact, to bind the men together, and to help them to do away with many of their disadvantages.

There is no reason why such a union should clash with the employers—in fact, it ought to be hailed with satisfaction, as helping them over some of their difficulties with employés. Times without number—in fact, periodically—have the masters raised a cry against their assistants. The columns of *THE CHEMIST AND DRUGGIST* have often been filled with their pungent sarcasm and doleful wallings. There has been a spirited rejoinder from some clever black-sheep, a final growl from some more spiteful employer, then all was hushed in the clatter of the pestles.

I said this is the most favourable time for an attempt at

bettering our position, and I am impelled to this conclusion by one or two reasons.

First, there is a great dearth of good assistants, so much so that a competent man with good references has less difficulty in obtaining a situation than in choosing which to accept. The new examination regulations, and the fact that so many youths after passing the Preliminary drift out of the business, disgusted with the dismal future and had pay, are among some of the causes of this dearth.

Secondly, the new examinations, while requiring a higher educational knowledge, and the demand for qualified men consequent on the recent prosecution, will give us a higher status, and at the same time help to limit the supply.

For these reasons I think we have the ball pretty much at our feet, and that combination now would secure for us benefits which would be established usages before the next had time comes.

As a body we could approach the employers in a conciliatory spirit, quietly impress on them that we were of a more advanced education and type than formerly, and that we therefore required more extended advantages than hitherto enjoyed.

This is a very complicated subject, and I have not touched on half the points which might have been raised; but I appeal to chemists' assistants. Do not let your chance slip; hestir yourselves, criticise, propose, collide with one another as you will, but let this friction only beget that energy and order which will give a new world to us poor hennighted assistants.

IVAN. (17,33)

DISPENSING NOTES.

The opinions of practical readers are invited on subjects discussed under this heading.

The Polity of "What is Meant?"

SIR,—The mercurial bath question has doubtless exercised the calculating powers and ingenuity of chemists generally, whilst the letters published by you prove that a few may be right and many wrong in their results. You will, I feel sure, pardon me expressing a candid opinion on such a paradox.

So far, then, as the prescription itself is concerned, the two first lines are sufficiently indicative of the quantities required, viz.:—"Make a ̄iv . solution of mercuric chloride, of which each teaspoonful shall contain 1 part in 5,000 parts." This is plain and capable of dispensing. Why not do it? Why say, "What is meant?" Why suggest that the prescriber intends other than what he writes?

The directions to the patient should have little to do with the dispensing of it by the chemist, for if we are to act upon this principle of + and - at will, the whole system will be imperilled. Contrast the same prescription with the direction, "To be used as a gargle three times a day." Are we to alter the common-sense view of the quantity by giving a homœopathic solution in this instance, and a poisonous allopathic compound in the other?

The question is, should prescriptions admit of two or more constructions? If the public engage the services of practitioners who from any cause do not express their intentions in a manner to be understood, I fail to see that a chemist's duty is to supervise him, except only where dangerous issues are involved, where negligence or culpability might attach to the dispenser, or in cases of decomposition or incompatibility.

And why should the time of a chemist be taken up by such an abstruse calculation as 1 in 5,000? There can be no doubt that the doctor's duty is to prescribe the precise amount of material he desires his patient to take or use, and not to leave the quantities to be judged or misjudged by the chemist or assistant who dispenses the medicine, according to the particular view he may take of the prescriber's intention. We ought to have a mutual and reasonable understanding upon the several points involved, not only for our own protection but for general interests, and as by the results you have obtained, you will readily see, there is no unanimity of opinion, but that the majority of quantities published, whichever view is taken, differ.

The solution of such an issue—complex as it may seem—may be readily determined by combined effort, and it is with this object I open the question at a time when the circumstances favour discussion. Upon the principles I advocate my calculation of the quantity in question is as some of those published, from which I notice you dissent, viz.:—

$$\frac{437.5 \times 4 = 1750.0}{5000} = \frac{7}{20} \text{ of a grain.}$$

I do not, however, apply this as a question of discrediting the opinions of those holding views opposed to my own, but with the object of showing that, however much the dispensing of it may appear ridiculous—as homœopathic doses do—and if in such cases we have no higher object in view, we can at all events claim “safety” as our trade-mark, and accredit ourselves with a conscientious and faithful discharge of duty.

I am, Sir, yours faithfully,

JAMES PHILLIPS.

36 Everton Road, Liverpool, April 7.

SIR,—With regard to the “What is meant?” prescription I think your correspondent who gets 384 grains as the answer has followed the correct method, although he has calculated the ounce as 480 grains in place of 437½ grains. Some of your correspondents “think it obvious that the prescriber intends such and such a thing.” The prescription distinctly says the strength of one teaspoonful is to equal 1 in 5,000—that is (approximately), 011 grain in the drachm; but 32 drachms are to be sent, thus making the amount 011 × 32 = 352 of a grain. This is certainly an absurdly small quantity, but, as the prescription is written, I humbly submit that this is the correct amount.

Yours truly,

W. E. WILSON.

Hawick, April 4.

SIR,—Not agreeing with the general opinion as to the “What is meant?” hyd. perchlor. prescription, but rather with that expressed by “Hastings,” I would suggest that, if possible, the prescriber be consulted, so that the matter be properly decided. I always think it best to dispense what is written, and not what is intended, provided doing so is not injurious to the patient.

Yours, &c.,

BUNGS. (7/72.)

Sir,—As dispenser of the prescription discussed under the heading of “What is meant?” I desire to acknowledge the correctness of the opinion given by the editor and others. Viewing the purpose for which the solution was intended, together with the directions given, but one conclusion seemed likely—viz., that a solution of the strength as under should be dispensed:—

$$5,000 : 437.5 :: 80$$

80

$$5,000 \text{) } 35,000.0 \text{ (} 7 \times 32 = 224$$

35,000

But contrary views being expressed, and thinking the question of general interest, the prescription was submitted to the verdict of the CHEMIST AND DRUGGIST readers, and their diversity of view read with some surprise by

Yours truly,

UP TO DATE. (18/7.)

LEGAL QUERIES.

15/43. *Patent*.—You cannot “patent” a title; nor is it at all likely that the title “Blood Pills” could get registered as a trade-mark. If you like to try, you can see how to proceed by consulting the DIARY, 1891, page 158.

16/70. *Rheum*.—Registered medical practitioners can call themselves “chemists and druggists,” and trade as such. If a person (not a medical man) trades as a chemist and druggist, and his name is not on the register, this is *prima facie* evidence against him; but he may prove, if he can, that he has a right to registration. If two persons, one registered and the other not, trade as chemists and druggists, the un-

registered person is liable to a penalty. The Pharmaceutical Society is not bound to give notice before prosecution. Five pounds is the penalty which may be recovered for illegal use of the title. The “Pharmaceutical Register” is supplied by Government, not by the Society, to county courts, coroners, clerks of the peace, and law courts.

15/35. *Mac*.—We cannot make trade-mark searches for correspondents. If you apply for registration of your title it will be refused if previously registered, and you will lose your 5s. application-fee; or search, at 1s. per quarter of an hour, can be made at the Trade-marks Office, Southampton Buildings, Chancery Lane.

16/55. *J. T.*—It is not illegal for an unqualified person to display the usual chemists’ coloured bottles. He must not, however, sell scheduled poisons, and he would not avoid the penalty by selling them under the medicine stamp if the court should be satisfied that he had adopted such a proceeding as a subterfuge.

16/62. *Swindled*.—A chemist allows his assistant to put up and sell certain proprietary articles. On leaving his situation the assistant refuses to disclose the formulæ for these. Can he be compelled to do so? Certainly not.

18/4. *Alpha*.—We do not know that the new Act affects the matter. You are liable to a penalty if you have an unstamped measure in your possession “for trade.” We know of no case deciding whether in this definition could be included the right to sell such measures to photographers; but as photographers would no doubt be entitled to use unstamped measures in the practice of their art, we should think it could hardly be an offence to be prepared to supply them with such measures.

159/29. *Alpha*.—The graph patent was dated 1878, and will not, therefore, expire (if the fees have been duly paid) until next year. We will ascertain how the matter stands.

14/70. *Butter*. If you can satisfactorily prove delivery of the empties to the carriers, and also show that the same have not been delivered, the value can be recovered from them. If you are sure of your facts, and can establish your claim by the signature of the carrier’s agent, you need not trouble about their negligence in correspondence. They will attend to a summons.

MISCELLANEOUS INQUIRIES.

Correspondents who ask replies to be inserted “this week” or “next week” are reminded that we do not guarantee replies, and that their insertion depends upon the space at our disposal for such matters. It is generally impossible for us to find room for queries the same week they are received.

12/4. *Infants’ Food*.—A formula is out of the question the main difficulty is in the apparatus, which is expensive and can only be used on the large scale.

11/40. *L. M.*—We should be glad to answer your query if you would write it plainly. We do not know whether you mean feet, felt, or fur dust.

11/13. *Carbon*.—White precipitate ointment is as fatal as anything—10 per cent. oleate of mercury the cleanest of all applications.

13/6. *Cleveland*.—Columbia salad-oil is cottonseed-oil, we understand.

17/5. *Assistant*.—The reason why gelatine capsules collapse is fully explained in the article on page 291 of our issue of August 30, 1890.

17/18. *H. Thomas* (Queensland).—You have overlooked the fact that tartarated soda is a tartrate of soda and potash. There may be reasons for considering the Pharmacopoeial name for Fehling's solution to be incorrect, but not those which you hint at.

17/4. *J. R.*—We can only repeat what we have already told you—that the B.P.C. Unofficial Formulary Committee found their first formula for cod-liver oil to be so unsatisfactory that they quickly replaced it by another. The directions as given in "The Art of Dispensing" we have found to be satisfactory, but the emulsion is far from perfect. Perhaps your tragacanth is at fault.

14/70. *Rutter*.—Of course you will not get solid orthotolidine or commercial aniline black from an ordinary wholesale drug-house. You must go to a dealer in fine and rare chemicals, several of whom advertise in this journal. Black aniline dye is meant.

159/11. *Kola*.—The best Preservative Powder is boracic acid alone. When mixed with borax its antiseptic properties are simply so much weakened.

17/36. *B. F.*—You will get all the information you require in the manual entitled "Aerated Waters, Cordials, &c." (Stevenson & Howell, 2s. 6d.).

158/31. *Alpha*.—If Sugar is faced with Ultramarine, you cannot fail to detect it when making "Easton's syrup." In this case the dilute phosphoric acid, acting upon the colouring-matter, liberates sulphuretted hydrogen. The same thing takes place with any other acid, but as the quantity of the colouring used is very small, generally a few pounds of the sugar are required in order to detect the odour.

18/13. *M. B.*—Heading for Ginger-beer.—One ounce of quillaia, or the equivalent of any preparation of it, is reckoned as sufficient for 20 gallons of any beverage.

7/12. *E. de C.*—The easiest way to tell whether opium is present in a preparation or not is by the iron test: the addition of a few drops of tincture of perchloride of iron to a portion of the sample.

154/24. *A. C.*—(1) "The Art of Dispensing" now published is a much more complete work than the one published in 1885. (2) Chlorodyne lozenges are not scheduled as poisons, and it is questionable if they could be included as preparations of morphia.

14/68. *J. F. Kingzett*.—Pulv. Chlor. Co., C.T.H. is a mixture of equal parts of horax, bicarbonate of soda, chlorate of potash, and sugar.

14/72. *T. R. C.*—Your first query was answered last week. We do not think that your proposed titles infringe anyone's trade-mark; but it altogether depends upon how you use them whether those who have created and popularised the titles you wish to imitate will prosecute you or not.

7/69. *F. C.*—The easiest way To Separate Terpinenes from Essential Oils is by fractional distillation. The terpinenes come over first. It does not follow, however, that you will improve or strengthen the odours of the essential oils, for by the heat their character may be entirely changed, and for the worse. Distillation *in vacuo* would be best.

10/58. *S. C. S.*—We cannot ascertain what French helt-makers use as cement. Probably it is nothing out of the common, and only the method of applying it that ensures the superiority.

13/4. *J. B.*—The statement regarding Extract of Malt being no better than ordinary fermented malt-liquors is quite antiquated. It was made long before it was found possible to prepare extract of malt without altering the diastase. There is no fermented malt-beverage possessing the same dietetic properties as malt extract.

14/20. *S. J.*—We question if the "oil" can be bleached, but you may try exposure to light in well-corked hottles.

13/37. *Apprentice*.—Perfume and smelling-salts would be saleable commodities to present to a bazaar.

13/56. *F. H. S.*—We do not find any query by you amongst those not yet replied to. What was it?

152/34. *A. J. W.*—The formula given in the DIARY for the current year answers your requirements.

16/33. *Enis*.—Barton's exterminator, made by Wolstencroft & Co.

17/46. *G. D. C.*—Read the article on "Counter Prescribing" in THE CHEMISTS' AND DRUGGISTS' DIARY, 1890.

17/43. *Maranta*.—(1) Liquor Marubii pro Syrupo.—Dried horehound, 2½ oz.; boiling water, a sufficiency. Infuse the horehound in 10 oz. of boiling water for three hours and strain. Again infuse in 8 oz. of boiling water for the same period; strain and wash the horehound with enough hot water to make 15 oz. of liquor. Add to this when cold 4 oz. of rectified spirit and 1 oz. of paregoric elixir (without opium). One part of this liquor to be added to 7 parts of simple syrup. (2) Tinctura Sanguinariæ, U.S.P.—Blood root in No. 60 powder, 4½ oz.; rectified spirit, 26 oz.; water, 10 oz. Mix the liquids and make 32 oz. of tincture by percolation.

17/69. *Nemo*—We have seen the paragraph, which has been going the rounds of semi-scientific newspapers recently, recommending a mixture of litharge and glycerine for a cement. One's hair would grow grey and mouldy before that mixture would set.

18/16. *W. M. E.*—Evidently you are not a very careful reader of THE CHEMIST AND DRUGGIST, otherwise you would have seen the article which we recently published on "Dandruff." We have also published cures innumerable.

16/11. *Sponge*.—The flavour of your tooth-wash is oil of wintergreen.

Information Wanted.

[Replies to the following requests are solicited by correspondents of THE CHEMIST AND DRUGGIST.]

16/44. Address of children's food manufacturer.

18/3. Title of a good work on brick-making, or what to use to colour bricks a good red.

256/42. Makers of filling, corking, and labelling machines for 1-oz. and 2 oz. bottles.



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WITH VITRIFIED (burnt in) LABELS

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Labels indestructible and of elegant appearance, forming an even surface with the glass or porcelain. The Jars of best porcelain, thoroughly greaseproof. The Bottles hand-made and of superior quality. Both are unsurpassed by anything in the market in every respect. Also a CHEAPER sort of Bottles and Jars, with labels equally indestructible, but very plain, especially suitable for Dispensaries, &c. Intending Buyers are requested to inspect Samples at

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A large number of Shops have been fitted up with these Bottles and Jars, both in England and the Colonies, a list of which can be had on application.



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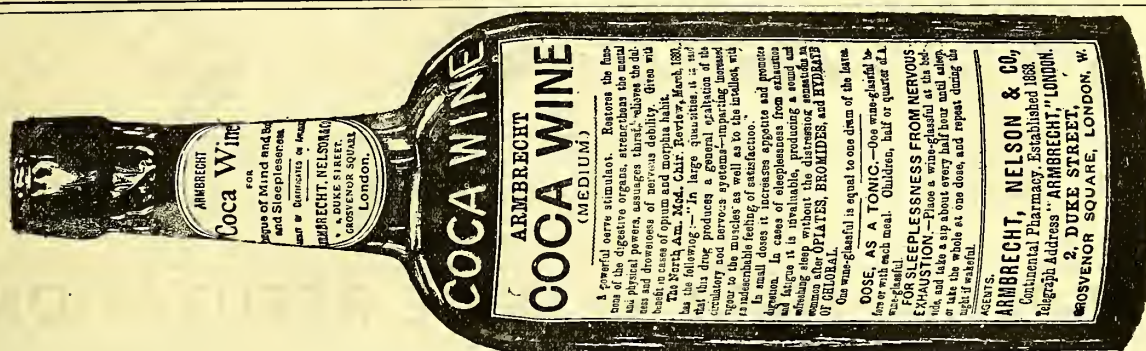
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In 3 sizes, equivalent respectively to 1, 2, or 3 Blaud's Pills.

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Some time since we had several samples of well-known SYRUP. HYPOPHOS. COMP. analysed by Mr. D. B. Dorr, F.R.S.E., F.I.C., Ph.C., and in no one case did he find so large a proportion of the active constituents as is found in our preparation by a precisely similar analysis—which analysis is an absolute proof that the proportions of the different ingredients which we state are in our Syrup are ACTUALLY PRESENT. We, therefore, submit that from the use of our Syrup the best results may be confidently anticipated.

In proof of our statements we subjoin the report of Analysis referred to.

NOTE.—Our Syrup will darken in colour by lengthened keeping; and so must every Syrup which contains a similar proportion of FERROUS Hypophosphite.

"Analysis of SYRUP. HYPOPHOS. COMP. (grains per drachm)."

	Duncan's	No. 1	No. 2	No. 3	No. 4
Hypophosphite of Quinine ..	20	14	11	69	12
" " Iron	77	72	10	28	15
" " Manganese	27	22	00	16	08
" " Calcium	1.04	00	83	01	15
" " Potassium	1.00	68	1.48	24	29
" " Sodium	1.53	1.45	1.54	29	29
The quantity of STRYCHNINE present was not determined. Our Syrup contains 100 grain in each fluid drachm.					

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Each drachm contains in a concentrated form, besides the fluid pepsine, a full dose of Schacht's Liquor Bismuthi. Dose: One drachm. In $\frac{1}{2}$ lb. and 1 lb. bottles.

N.B.—*Peps. Liq. c. Bismutho Co.* contains, in addition, one gr. soluble Euonymin in each drachm.

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Each drachm contains one grain of soluble Euonymin. Dose: One drachm. For dispensing $\frac{1}{2}$ lb. and 1 lb. bottles.

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A perfect solution of Podophyllin, containing $\frac{1}{2}$ gr. in each drachm.

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A pleasant and active form of Cascara Sagrada. Dose: One to three teaspoonfuls diluted. In 4 oz., $\frac{1}{2}$ lb. and 1 lb. bottles.

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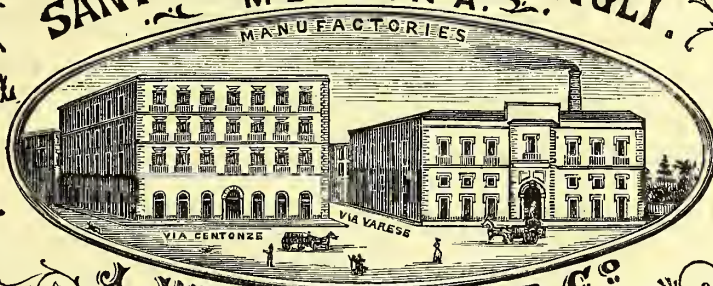
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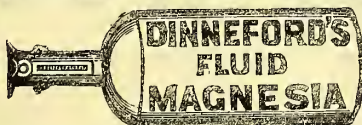
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OLIVE OIL (Cream White),
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ACETIC ACID, CHEM. PURE,

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excellent article for the Toilet and Teeth. A grand Preservative
during periods of Epidemics.**53 AWARDS,** of which 15 are Diplomas of Honour & 14 Gold Medals
DEPOTS EVERYWHERE.Manufactory:—**Lyons (France), 9 Cours d'Herbouville**
PARIS, 41 rue Richer.**Insist on the name De Ricqlès.****GENERAL MANUFACTURERS OF ALL KINDS OF PHARMACEUTICAL PRODUCTS.**Pills, Sweets, Granules, Tablets, Pharmaceutical Confectionery, Impalpable Powders, Medicinal Biscuits, Alkaline
Acid or Neutral Tar Liqueur; Soft, Dry, or Fluid Extracts evaporated in Vacuum, &c., &c.**EUG. FOURNIER, P. BON & CO.,** successors to **L. PINGEON,** PHARMACEUTICAL
CHEMIST, **DIJON, FRANCE.**Pearls, Capsules, and Capsulines by
Pressure, containing all medicinal substances
which can be capsuled, such as salts of quinine,
various powders, ethers, etheroles, beech creosote,
cypine, terpinol, turpentine essence, citrine santal
essence, creosoted cod-liver oil, balsam of copahu,
tar, &c., &c.**CAPSULES - PINGEON.**Boxes and Bottles specialised with the
mark PINGEON, or with Buyer's Name.
GOODS SOLD IN BULK.Guaranteed to keep in all climates. Important
discount to wholesale houses. Write for the
general price list.Soft Capsules and Capsulines containing
essence of santal, balsam of copahu, and their
compounds.**Russian Elastic Capsules** with thin and
flexible envelope containing cod-liver oil, castor oil,
and other medicinal liquids which are taken in
large doses.**Too Tempting!**Portrait Show Cards, the whole of the first edition had been rapidly exhausted, and some applicants
disappointed. A second and much larger edition is now ready. All Chemists who stock Guy's Tonic
are invited to apply for our useful and attractive advertising matter, the use of which always
materially assists local sales.—Guy's Tonic Company, 4 Ludgate Circus, London, E.C.The Editor of this Journal has quite recently
referred to the fact that, owing to the
unexpected rush of applications for our**CURTIS & Co's**
GRAN. EFF. BISMUTH, PEPSINE & STEEL.

[ESTABLISHED 1820.]

[ESTABLISHED 1820.]

BISMUTH AND PEPSINE	5 grs. each to 3j.
BISMUTH, PEPSINE AND STRYCHNINE... ..	5.5 & $\frac{1}{50}$ grs. to "
BISMUTH, PEPSINE AND QUININE	5.5 & 1 " "
BISMUTH, IRON AND QUININE	5.5 & 1 " "
BISMUTH CITRATE	5 " "
BISMUTH, IRON AND STRYCHNINE	5.5 & $\frac{1}{50}$ " "

IRON AND BISMUTH	5 grs. each to 3j.
IRON, QUININE AND STRYCHNINE	5.1 & $\frac{1}{50}$ grs. to "
IRON AND ARSENIC	5 grs. & 3m. (Fowler's) "
IRON AND PEPSINE	5 grs. each to "
IRON AND QUININE	5 & 1 grs. " "
IRON, QUININE AND PEPSINE	5.1 & 5 " "

GRAN. EFFER. ANTIPIYRIN

EACH TEASPOONFUL CONTAINS 8 GRAINS.

ORIGINATED AND INTRODUCED BY CURTIS & CO.

CAFFEINE CITRATE	3 grains to 3j.
CAFFEINE HYDROBROMATE	3 " "
LITHIA CITRATE	5 " "
LITHIA BENZOATE	5 " "
LITHIA SALICYLATE	5 " "

SOD. SULPHATE	10 grains to 3j
SOD. SALICYLATE	10 " "
POTASH CITRATE	10 " "
PHENACETIN	5 & 10 " "
QUIN. SALICYLATE	1 " "

And all other Granular Preparations.

SEE THAT THESE PREPARATIONS BEAR OUR NAME.

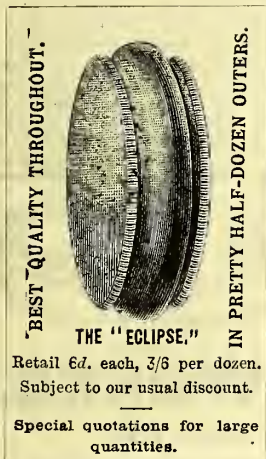
SPECIAL ATTENTION GIVEN TO EXPORT ORDERS.

CURTIS & COMPANY, 48 Baker Street, Portman Square, LONDON, W.

IMITATION IS THE SINCEREST FLATTERY

BUT IN BUSINESS IT IS REMARKABLY UNPROFITABLE.

See *Chemist and Druggist* Advertisements, March 14th, page 47, and March 21st, page 123.



It has been contended that the man who introduces an article to the public has a right to copy all improvements which others may from time to time make in it. If this be so, the sooner the Patent Office be levelled to the ground the better. Would the Steam Engine, the Electric Telegraph, the Telephone, and many other modern inventions, have attained their present perfection if the "improvers" had not been able to protect their ideas? We believe not, and we distinctly maintain that our "Eclipse" Menthol is in no way a modification of any other shape existing, unless, indeed, it be in the same sense that the Venus di Medici is a modified clay idol of primitive man.

Referring to the importance of originality, *The Chemists' and Druggists' Diary* of this year says (p. 165), "but one thing which we should strenuously advise is to *avoid imitation* in name, style, or anything else. That is always bad policy, and it is scarcely honest."

In a case of this kind we fully appreciate the fact that our only means of protection is an appeal to the conscience of our present or future imitators, and we think we cannot do better than quote the immortal Kant upon the point.

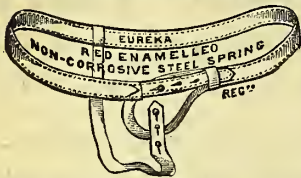
"Every man has a conscience, and finds himself observed by an inward judge which threatens and keeps him in awe (reverence combined with fear); and the power which watches over the laws within him is not something which he himself (arbitrarily) *makes*, but it is incorporated in his being. It follows him like a shadow, when he thinks to escape. He may, indeed, stupify himself with pleasures and distractions, but cannot avoid now and then coming to himself or awakening, and then he at once perceives its awful voice. In his utmost depravity he may, indeed, pay no attention to it, but he cannot avoid *hearing* it." (Note on Conscience, Kant's "Theory of Ethics," Abbott's translation).

We venture to believe that in appealing to the Drug Trade to support "the original and only genuine" makers of the Watch-shaped Menthol, we are not appealing in vain.

THOMPSON, WALTERS, HOLE & CO., LIM.
CURTAIN ROAD, E.C.

VINCENT WOOD'S INVENTIONS.

TRUSSES.



Ask your
Wholesale House
for my
**SPECIALITY
TRUSS,**
and
take no substitute.

Quality 1, Moleskin and Basil Leather, Colours in Dove,
Pink, and Buff.
Per dozen—Single, 11 6; Double, 18 6.
SIZES UP TO 40 INCHES. EVERY SPRING GUARANTEED.

"EUREKA" GALVANO-ELECTRIC



**BATTERY
BELTS,**
As Advertised.

Ladies' or Gents', 1 Power, 8 Batteries 8 6 each.
" " 2 " 15 " 12 6 "
" " 3 " 24 " 16 6 "
" " SPINE BANDS 30- doz.
As Sketch, Retail at 5 6 each.

**LARGEST BONA-FIDE
MANUFACTURER OF**
Trusses, Belts,
Elastic Hosiery,
Suspensory Bandages,
Obstetric Binders,
Chest Expanding Braces
Galvano-Electric and
Magnetic Appliances, &c.

Chemists supplied free of
charge, with stock orders of
goods, with Terra-cotta
Statuettes, Glass Show Cases
Show Cards, Electros, &c.

A SAVING OF 25 PER CENT. BY INSISTING UPON HAVING THE "EUREKA" GOODS.
Inspect Goods here, and place orders with Wholesale Houses—3 St. Andrew St., Holborn Circus, London, E.C.
Established 51 years. Telegrams: "ACME LONDON." Telephone 6757.

Obtainable from your Whole-
sale Dealer, or, refusing to-
supply, communicate direct.



Fig. 1.

TRUSSES.



Fig. 2.

H. M. COLWELL'S TRUSS WORKS.

116 NEWINGTON CAUSEWAY AND YORK STREET, LONDON ROAD, S.E.

REDUCED PRICE LIST NOW READY.

Mailed Free with Samples to any address.

MAKERS OF THE NEW COLONIAL TRUSS, PROTECTED UNDER THE PATENT ACT.

Wholesale and Export Buyers only.

Established 55 years.

UNRIVALLED!!!

New Method for

BOXMAKING (Round & Square)

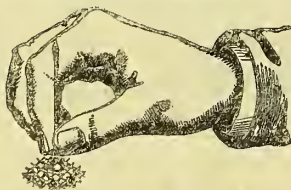
IN
CARDBOARD, PULP, &c.
PATENTED 1891.



TRADE MARK.

The Machines can be seen at work at
T. REMUS
Tabernacle St. & Castle St., LONDON, E.C.

FULL PARTICULARS ON APPLICATION



Trade Mark.

Registered.

**THE
ASSOCIATION for the SUPPLY of PURE VACCINE LYMPH,
12 PALE MALL EAST, LONDON, S.W.**
SOLE AGENTS FOR DR. WARLDMONT'S CALF VACCINE.

Tubes, 2s. each; Half Tubes, 1s. each. Pomade in vials, 5s.
HUMAN VACCINE, from healthy children only, microscopically examined and
source quoted. Tubes, two-thirds full, 1s. 8d. each; Tubes one-third full and Lan-
cet-charged points, 1s. each; Pin-points, 1s. 1d. each. Eighteen charged Small
Points, 5s. Tubes, two-thirds full (same as those mentioned above, but without
source), in quantities for export, 25 per 100 Tubes. Pin-points uncharged, 1s. per
dozen. Vaccine Ejectors, 1s. 8d. each, including postage. Vaccinations by appoint-
ment. F.O.O.'s (including postage, and crossed London and Westminster Bank)
with orders, payable to **EDWARD DARRK Secretary.**

Office hours, 10 to 4. Saturdays 10 to 2.

BAILEY'S PATENT

RUBBER "COMPLEXION" BRUSH.

Retails for 3s. 6d. each.
Price 25s. per dozen.



Used with a little soap in the daily
ablutions, the gentle friction of this
brush makes the skin beautifully soft
and smooth, effectually eradicating
all blemishes, blotches, wrinkles,
coarse lines, &c., and entirely super-
seding the poisonous cosmetics and
face-washes now in use. It is simply
invaluable for bathing the delicate
skin of infants and children.

BAILEY'S RUBBER TEETHING RING

(PATENTED)



Is perfectly tasteless, and so
constructed that the flat-
ended teeth serve to expand
the skin of the gums, soften-
ing the latter, and thus aid-
ing the coming tooth with-
out irritation. It is made
of pure Para Rubber, and
entirely supersedes the old-
fashioned and injurious
articles sold for this purpose,
and is highly recommended
by leading Physicians and
Dentists.

Retails for 5d. each.
Price 3s. 6d. per dozen.

We are also the Makers of BAILEY'S BATH and FLESH BRUSHES,
price 42s. per dozen; RUBBER TOILET BRUSHES, prices 8s. and 17s.
per dozen; and RUBBER TOOTH BRUSHES, price 6s. and 6s. 6d. per doz.

Of all Wholesale Houses, or direct from the Manufacturers,

DAVID MOSELEY & SONS,

14 Aldermanbury Avenue, LONDON, E.C.

Ardwick, MANCHESTER; And 57 Miller St., GLASGOW.

BARCLAY & SONS, Ltd.

SPECIAL AGENTS FOR

ARTAUD'S Concentrated FLORAL EXTRACTS.

The Oldest House in Grasse!!! Established A.D. 1703!!!

The following Perfumes are in stock in 5-oz., 10-oz., and 20-oz. Bottles (Artistically Labelled):—

White Lilac.

White Heliotrope.

Lily of the Valley.

White Rose.

Ess. Bouquet.

Jockey Club.

Frangipani.

Jasmin.

Heliotrope.

Opoponax.

Wood Violet.

Ylang Ylang.

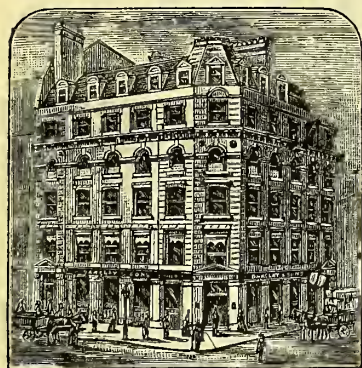
Stephanotis.

Wallflowers.

We respectfully suggest a Trial Order to test the very special merits we claim for the above. Per lb., 9 6; per 5 lbs., 9 -.

9 FARRINGTON STREET, LONDON, E.C.

Established upwards of a Century.

**COOK'S ANTISEPTIC SOAP**

(THOMSON'S PATENT),

Has been tested in a Physiological Laboratory as a Germ Destroyer, and proved to be more efficient than any other experimented with. (See "Journal of Chemical Industry, 1888, No. 3.) Of great value in CASES OF

ECZEMA, RINGWORM, SCABIES, FAVUS AND OTHER SKIN DISEASES.

See "The Lancet," 12 May, 1888, page 936.

Price in 3-Tablet Boxes, per doz. 12/-; Selling Price, 1/6; in 1/4-gross Boxes, 10/6 per box.

GOLD MEDAL, PARIS EXHIBITION, 1889.

Can be obtained through MESSRS. S. MAW, SON & THOMPSON, LONDON, or of

EDWARD COOK & CO., HOUSEHOLD and SOAP MAKERS, LONDON, E.**PERFUME SPRINKLERS,**

ALSO FOR

HAIR WASHES, CREAMS,
OILS, INKS,

&c.



MANUFACTURERS:

H. G. SANDERS & SON,

Victoria Works, Victoria Gardens, Notting Hill Gate, LONDON, W.

Established 1820

Telegraphic Address: "COLLAPSIBLE LONDON."

SALVINE,**THE SCIENTIFIC DENTIFRICE.**OF ALL WHOLESALE
HOUSES.

THE LANCET.—Extract from "ANALYTICAL RECORDS" reports:—"Salvine Dentifrice is a delicately scented paste, which exhibits an Alkaline reaction to test paper. It is perfectly free from injurious elements. From its composition it is evidently ANTACID, ASTRINGENT, and ANTI-PARASTIC. Salvine is contained in Collapsible Tubes, the use of which offers OBVIOUS ADVANTAGES."

Put up in a novel and attractive manner. Price 1/1, 1/6, and 2/6.
LIBERAL TERMS.

A handsome valuable Showcard of an exceedingly tasteful and high-class design, now ready. Transparencies and other attractive Advertising matter.

SALVINE DEPOT, 3 Oxford St. LONDON, W.

CHEMISTS' SHOP FITTINGS, SHOW CASES, &c.

FOR BEST WORK AT LOW PRICES SEND TO

G. TREBLE & CO., 2 KINGSLAND GREEN, DALSTON, LONDON.

PLANS AND ESTIMATES FREE. SPECIAL ATTENTION PAID TO EXPORT ORDERS.

DR. PAUL'S HIGH-CLASS MANICURE SPECIALITIES,

Certified as innocuous by eminent English and American Chemists.

CERAMINE.

For tinting Finger Tips, Face and Lips..... 2/6 .. 18/-

POUDRE LUSTRALE.

Gives a brilliant shell-like transparency to the Nails 2/6 .. 18/-

CREME CAMELIA.

Restores Rough and Chapped Skins to their original softness 2/6 .. 18/-

NAIL OLEATE.

Preserves and gives a brilliant polish to the Nails, and prevents Hangnails, &c. 1/6 .. 10/6

CLEANSING FLUID.

Instantly removes all stains from the surface and underneath the Nails 2/6 .. 18/-

FACE AND HANDS LOTION.

Softens the Skin and removes all discoloration 4/6 .. 33/-

EMERY BOARDS.

For bevelling the rough edges of the Nails after use of the file per box 1/- .. 7/-

ORANGE WOOD STICKS.

A valuable novelty introduced in Dr. Paul's system of Manicure to apply the "Cleansing Fluid" under the free margin of Nails, and thus avoid the danger of scratching with steel instruments, 7/- per doz. bundles.

CAUTION!—Dr. Paul's Specialities can be obtained at all first-class Perfumers' and Chemists', but many imitations are offered at inferior Stores

WHOLESALE AGENT

OSBORNE, CARRETT & CO., FRITH STREET, LONDON, W.

Dr. ZIEMER'S ALEXANDRA- DENTIFRICE.

Matchless for the
Teeth, Gums, and Breath!

Guaranteed Non-
injurious to the
Enamel.

Of all
Wholesale
Houses.



Prices:

1/3 size 9/-

2/6 .. 15/-

3/6 .. 24/-
per doz.

Show Cards &c.,
forwarded on application.

B. W. Ziemer & Co.

143 Cannon St., LONDON, E.O.

"PRICE'S GLYCERINE"

(Originally introduced in 1855).

**Guaranteed free from ARSENIC
and all other impurities.**

WHOLESALE FROM

**PRICE'S PATENT CANDLE CO.,
LIMITED,**

London, Liverpool, and Manchester.

DENTAKON

For Cleaning

**ARTIFICIAL
TEETH,**

EITHER

Gold, Platinum, or Vulcanite,
Deodorizing, Disinfecting, removing
Grease, keeping them Bright and
Clean as when new.

ALL WEARERS SHOULD TRY IT.
Recommended by many eminent Dentists.
In Boxes, 1s. 6d., through any Chemist, or Post
free from Maker,

C. LOWE, Chemist, Surbiton, S.W.

UNG. EMOLLIENS (ELTON & CO.)

AN IDEAL OINTMENT BASIS.

UNG. EMOLLIENS is prepared expressly for the Medical Profession, and will be found to far surpass in therapeutic value any previous preparation of the kind brought to their notice.

UNG. EMOLLIENS ANTISEPTICUM (Elton & Co.)

Prepared by the same special process of manipulation as the UNG. EMOLLIENS, but medicated by combination with a new and specially prepared basic and antiseptic Salt of Zinc and other approved remedies.

The following skin diseases may be mentioned, in which it has proved a most valuable and certain remedy:—Pruritus Ani, Eczema, Acne Rosacea, Erythema, Herpes, Impetigo, Psoriasis, Scourvy, Erysipelas, Urticaria, Prurigo, Tinea-Versicolor, or any other irritation of the epidermal surface.

It is perfectly miscible with all fats, oils, and waters, and may be dispensed with any other medicament the physician desires to use in addition to its present constituents.

Prepared only by the Proprietors, Messrs. ELTON & Co., 28 Endsleigh Gardens, N.W.

Sole Wholesale Agents:—

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REGISTERED

'LUCILLINE'

[REGISTERED]

Owing to its HIGH
MELTING POINT it
is specially suitable

OF

ALL

FOR EXPORT,
and is ready to
use for Ointments.

"A A" BRAND.

Highly refined and prepared
for Toilet purposes. Invaluable
for burns, cuts, wounds,
&c. In elegantly decorated
tins, 2, 4, 8, and 16 oz., and
larger sizes.

"A" BRAND.

Less highly refined than
"A A." Used as a base for
Pomades, Ointments, Harness
Compositions, &c.

"B" BRAND.

A useful brand where a
cheaper quality than "A" is
required.



WHOLESALE

HOUSES.

"C" VETERINARY BRAND.

For the treatment of Wounds,
Sores, Sprains, and all Skin
Affections of Live Stock.

NOTE.—B and C brands are
also largely used as lubricants,
for the preservation from rust
of bright metal surfaces, and
for keeping harness, &c., in
good condition.

SIZES—

1, 5, and 10 lb. tins.
25 and 50 lb. pails.
200 lb. and 350 lb.
barrels.

Prices and Samples upon application to

HATRICK & CO., LIM., SOLE CONSIGNEES, 31 SNOW HILL, LONDON, E.C.

ORIZA-PERFUMES

IN LIQUID AND SOLIDIFIED FORM OF L. LEGRAND, Specially Appointed Furnisher to the COURT OF RUSSIA,

11 PLACE DE LA MADELEINE (Removed from 207 Rue St. Honoré), PARIS.

UNRIVALLED SWEET PERFUMES*For all who like Delicate and Concentrated Scents.*

LATEST CREATION:

ORIZA-PERFUMES aux VIOLETTES du CZAR.

Inventor and Solo Proprietor of the

SOLIDIFIED ORIZA-PERFUMES

(PATENTED).

12 different Scents in the form of Pastils and Tablets.



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CATALOGUE AND PRICE LIST FREE ON APPLICATION.

"THE FAIRIES' DANCE."

A copy of this original and beautiful Show Card (copyright), advertising our Perfumes, will be sent carriage paid to any Chemist on application. Sure to induce business. We would respectfully advise friends writing for a Show Card to include a trial order for

"THE SCENT OF THE LILIES"

AND

"THE SCENT OF THE HAYFIELDS"

Retailing at
2/-, 3/6, and 6/6 each.
Wholesale
15/-, 27/-, and 46/- doz.

G. VOGT & CO.,Wholesale and Export Druggists and Perfumers,
19 LAURENCE POUNTNEY LANE,**LONDON, E.C.**

General Price List post free.

Telegrams: "ALSACE LONDON."

MANUFACTORY.

"Eclipse" Glass Works,
Lea Bridge, Clapton, London, E.

Prize Medal, Adelaide Exhibition, 1887.

Award of Merit, Melbourne, 1888.

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381-3 KINGSLAND ROAD,
LONDON, E.**E. A. HEARN & CO.****WHOLESALE AND EXPORT GLASS BOTTLE MANUFACTURERS.**

Makers of EVERY DESCRIPTION of Glass Bottles, either PLAIN or STOPPERED, in

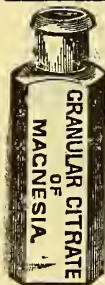
WHITE FLINT, AMBER, BLUE, MEDICAL GREEN, ACTINIC GREEN, &c., &c.
OR ANY COLOUR MADE TO ORDER.**FEEDING BOTTLES IN ALL SHAPES,**
PLAIN NECKS OR SCREW STOPPERED.**SPECIALITY.**—First-class Quality at Reasonable Prices.

TRADE MARK.

**DISPENSING
BOTTLES.****FLATS, OVALS, & SQUARES.**Without exception the prettiest Tinted Bottles in the Market.
Equal to the best make. Prices moderate.**JOHNSEN & JÖRGENSEN**

5 SAVAGE GARDENS, LONDON, E.C.

OUR SPECIALITY.

**GLASS
BOTTLES**

OF THE

BEST QUALITY.DISPENSING, PICKLE, SAUCE, OIL,
MINERAL WATERS, &c., &c.

SAMPLES AND PRICES ON APPLICATION.

E. YOULDON,EAST LONDON GLASS BOTTLE WAREHOUSE
36 to 40 Great Garden Street, Whitechapel,
LONDON, E.**AUSTIN & CO.**

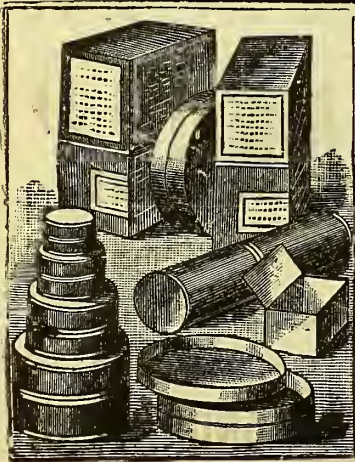
Patentees and Manufacturers of FANCY CARD

ROUND, OVAL, AND SQUARE SHAPED BOXES

FOR POSTAL AND GENERAL PURPOSES.

ALSO PATENT BARREL PACKAGES WITH METAL ENDS, FOR DRY GOODS,
ANDMakers of best class of Violet Powder Boxes, and high-class goods of
every description for Perfumery, &c.**8 GREVILLE ST., HATTON GARDEN, LONDON, E.C.**

STEAM WORKS, 2 PRINTER'S BUILDINGS.



No. 1855.
1891. — ALL PRIOR PRICE LISTS WITHDRAWN, 1891.

WHOLESALE TRADE PRICE LIST

BREFFIT'S CAPPED OIL AND ETHER ROUNDS,

Hand-made, White Glass.

	20 oz.	30 oz.	40 oz.
ACID or ETHER ROUNDS, STOPPERED and GLASS CAPPED.	23/-	27/6	34/6
OIL BOTTLES, STOPPERED FUNNEL STOPPERS and GLASS CAPPED.	23/-	27/6	34/6
OIL BOTTLES, STOPPERED FUNNEL STOPPERS, and with TIN CAPS.	23/-	27/6	34/6
	20 oz	30 oz.	40 oz.

DARK BLUE SYRUP BOTTLES,

Hand-made, with loose Plug Stoppers.

20 oz., 8/6

30 oz., 10/6

40 oz., 14/- per dozen.

HAND-MADE WHITE GLASS SHOP ROUNDS

SIZES	2dr.	$\frac{1}{2}$	1	1 $\frac{1}{2}$	2	3	4	6	8	10	12	16	20	24	30	32	40	60	80 oz.
UNSTOPPERED, NARROW or WIDE.	7d.	7d.	9d.	9d.	11d.	1/3	1/4	1/9	2/	2/3	2/6	2/9	3/3	3/6	4/	4/	5/	6/3	8/6
NARROW, GROUND GLASS STOPPERED.	1/3	1/5	1/6	1/9	1/9	2/	2/3	2/8	3/6	3/9	4/	4/6	5/3	5/6	5/9	5/9	6/9	8/	10/6
WIDE, GROUND GLASS STOPPERED.	1/6	1/8	1/10	2/	2/	2/3	2/8	3/3	4/	4/3	4/6	5/3	5/9	6/	6/3	6/3	7/3	9/	11/6

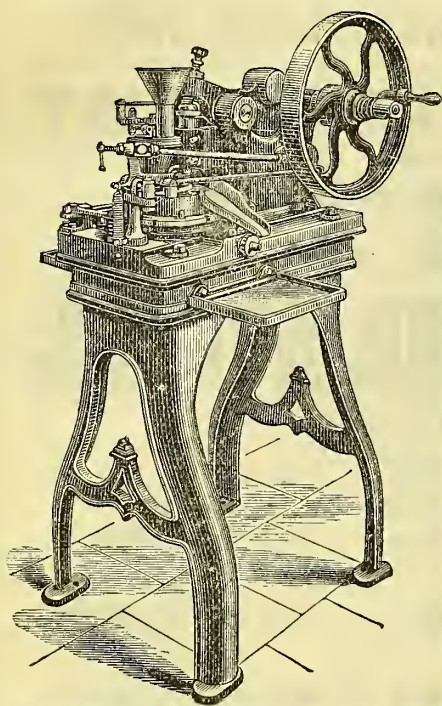
Prices per dozen, Net Cash, Delivered Free, London.

GOLD LABELLING on above, 3/ per dozen. ENGRAVED LABELS on above, 4/6 per dozen.

SHOW CARBOYS AT WORKS PRICES.

Offices & Show Rooms: 83 UPPER THAMES STREET, LONDON.

(Adjoining Cannon Street, S.E., and Metropolitan Railway Stations.)



JOHN HOLROYD & CO., LTD.

Engineers, Tool Makers, and Machinists,
TOMLINSON STREET WORKS,

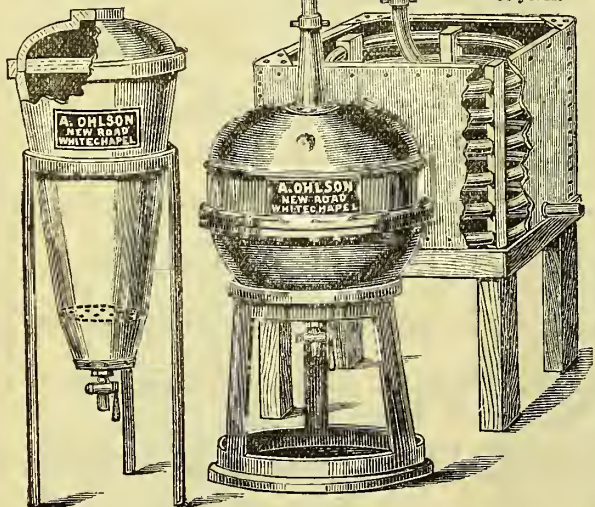
HULME, MANCHESTER.

ANDREW OHLSON,

Pharmaceutical Coppersmith & Engineer.

**EAST LONDON COPPER
& IRON WORKS,**
85 New Road, WHITECHAPEL

Telegraphic Address—
"ARRAIGNER
LONDON."
Established upwards
of 30 years.



COPPER PERCOLATOR WITH
HYDRO COVER.

COPPER STEAM STILL WITH
PORTABLE DOME.

STILLS,
NITRE, AMMONIA,
CLOVES, ALMONDS,
ACEIC, MINT,
LAVENDER,
APPARATUS FOR
DISTILLED WATER,
LABORATORIES FITTED UP COMPLETE.

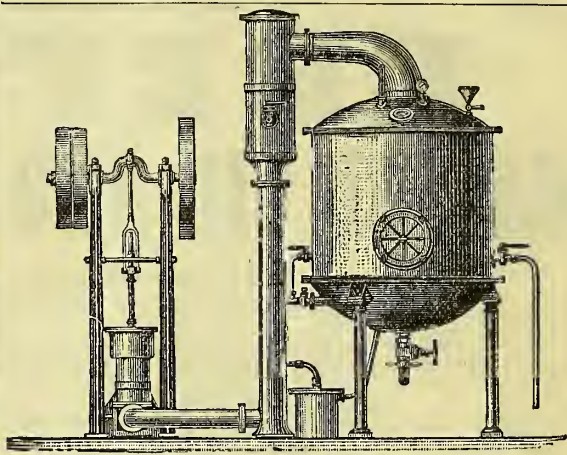
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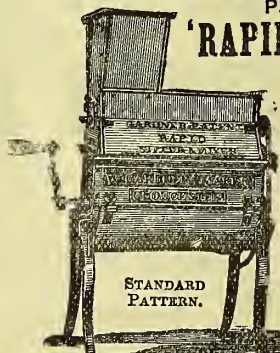
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BOXWOOD PATTERNS.

No.			
8p.	6d. Acorn, on foot	3/3 doz.	
103B.	4d. Pedestal	2/6 "	
113B.	6d. Reversible	3/6 "	
111.	1s. Acorn, on foot	6/6 "	
112.	6d. Draughtsman	3/3 "	
17F.	1s. " "	5/- "	
9CR.	1s. Reversible	4/6 "	
*6.	6d. Pedestal	3/6 "	
*14L.	1s. " "	6/3 "	
*17S.	6d. Draughtsman	3/9 "	
*17FP.	1s. " "	5/6 "	

* These Patterns have directions printed on the Boxwood.



No. 40.

THE WATCH SHAPE,

Which is really a Draughtsman modified and made flatter. 3/3 doz.
Special Prices to Wholesale Buyers.

The Charming China Figure
JUSTICE given away with 40/-
order assorted Cones.

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No.			
110V.	1d. Vase shape, 3 doz. on card	7/- gross.	
110P.	1d. Pedestal " "	7/- "	
114.	2d. Vase, varnished " "	14/- "	
114P.	2d. Pedestal " "	14/- "	
115.	3d. Flat shape " 2 doz. on card	20/- "	
109.	4d. Willow Pedestal	2/6 doz.	
117.	6d. Large " "	3/3 "	
118.	6d. Lighthouse shape	3/- "	



NEW 15/- CASE.

Anyone ordering 15/- worth of Cones, assorted, other than 1d., is presented free with a most attractive folding Counter Case, with glass front.

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NEW SEASON'S LOOFAH GOODS.



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" 116A.	" " " White Turco	4/6 "
" 116C.	" " " Coloured Canvas	4/6 "
" 130.	BELT " " " Turco	9/9 "
" 125.	" " " " larger	12/3 "
" 124.	" " " " Rough Turco	12/- "
" 129.	" " " " Loofah both sides	9/6 "

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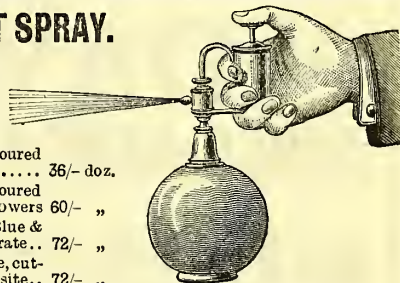
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No. 41.	Assorted Coloured Glass, ribbed, ball on top	8/6 doz.
" 42.	6d. Spray, assorted Colours	4/3 "
" 43.	6d. " " " ribbed	4/3 "
" 44.	9d. " " " " "	6/- "

NEW CORNET SPRAY.

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" 49.	Globe shape, Blue & Gold, very elaborate	72/- "
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1 "	3/-	" "	2/9 "	" "	2/6
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3 "	5/-	" "	4/9 "	" "	4/6

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6d.	Bone Ring, Polished	
	Seamless Teat	3/6 doz.
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EXQUISITE PERFUMES, ATTRACTIVELY GOT UP.

6d.	in Cut Stoppered Bottles, tied with Silk Bow	4/ doz.
6d.	1/2 oz. Round Essence, with Sprinkler	3/9 "
6d.	" " " corked and capped	3/6 "
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1s.	in 2 oz. " " "	13/ "
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* If 3 dozen of this series be ordered, Chemists' own name can be put in full.

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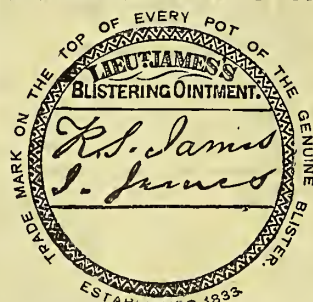


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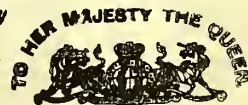
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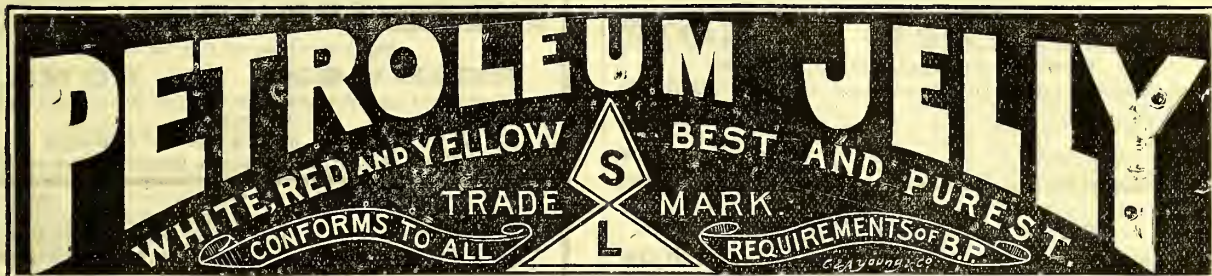
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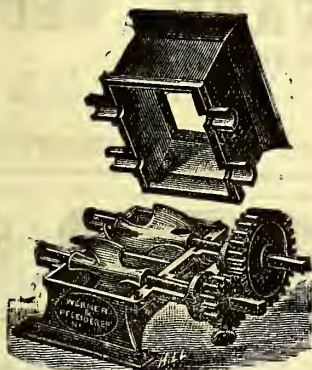
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CAUTION!

KEATING'S INSECT POWDER.

12 Bride Lane, London, E.C.

February 5, 1891.

WHEREAS I have reason to believe that certain Chemists have sold to Customers Penny Packets of what they represent to be Keating's Insect Powder. **I HEREBY GIVE NOTICE** that no genuine packet of Keating's Insect Powder is sold by me for less than Sixpence per Packet retail, and that I shall institute Legal Proceedings against persons found to be improperly selling any but Keating's Insect Powder to customers asking for it, which action renders them liable to very heavy penalties.

THOMAS KEATING.

A WARNING!

In the High Court of Justice—Chancery Division. Mr. JUSTICE NORTH—October 26, 1886.

KEATING v. POLL.

IT WAS ORDERED—

That the Defendant be perpetually restrained from stating or causing to be stated that Keating's Persian Insect Destroying Powder contains **any substance poisonous to animals or human beings**, or from making any statement to the effect that such Powder is dangerous to animals or human beings.

IT WAS FURTHER ORDERED—

That the Defendant, William Sheppard Poll, do pay to the Plaintiffs their costs of this action.

“Keating's Powder” is a special preparation, different from, and not to be compared with, any so-called Insect Powders which give so much dissatisfaction to Customers.

NOTICE.—*Chemists who make statements to customers defamatory of Keating's Insect Powder will be summarily proceeded against.*

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READY-MADE

LINSEED POULTICE

(Cataplasme Robin, Patent 5,967).

A Perfect Linseed Poultice, ready for use in Three Minutes, which will retain its heat and moisture for Eighteen Hours. It is antiseptic, and entirely supersedes the use of Linen—flexible, light, homogeneous, clean, and easy of application.

THE BRITISH MEDICAL JOURNAL says—

"The use of a linseed poultice is so general, and, at the same time, attended with so many difficulties and inconveniences, that anyone who discovers a really effectual ready-made linseed poultice, capable of extemporaneous and effectual use, is, in a small way, a benefactor. We are inclined to think that Seabury's Ready-made Linseed Poultice (Robin's patent) goes a long way towards solving the problem; it is light, flexible, clean, and easily applied. Three minutes' soaking in hot water makes the poultice ready."

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"We regard this as an important addition to Cataplastic Medicaments. . . . The advantage and convenience of being able to prepare a linseed poultice ready for use in three minutes, which will properly retain its heat and moisture, are obvious."

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Cut a piece of poultice of the prescribed size; steep it in hot water for three minutes; apply it at once, and cover it with a piece of gutta-percha tissue or other waterproof material somewhat larger than the plaster, so that the latter may be completely covered on every side.

Our plaster may also be used when COLD; the mucilage merely requires moistening by immersion in cold water for six or eight minutes; it may then be applied, and should be covered with a piece of Mead's Dressing Paper or gutta-percha tissue to keep in the moisture.

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